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Using Learning and Study Strategies and Counseling Interventions to Improve the Academic Performance of University Students Placed on Academic Probation

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Half of all students who begin college fail to complete their degrees, a waste of resources and opportunities for both students and our society at large. Research should investigate practices to retain students who are at risk for dropping out, as few studies have examined whether academic counseling or study skills result in stronger academic performance in college students who experience academic difficulties. This mixed methods dissertation explored the use of a three week course in specific study strategies, such as self-testing, self-regulation, and effective note taking, as compared to a three week academic counseling intervention on the improved academic performance of students on academic probation. Quantitative methods, employing a randomized control study, investigated the use of two different approaches, a study skills course or an academic counseling intervention, on increased academic performance as measured by grade point average (GPA). The GPAs of these two groups were compared to each other as well as to a control group from the same academic probation student population that received no services. The minimum group size recommended by a statistical power analysis of 42 was not achieved, despite multiple attempts. A smaller than expected sample size for all three groups occurred, and no significant differences were found in the GPA's of the 29 students who were randomly divided among the two intervention groups, as compared to the control groups. Qualitative methods also probed the utility of the two interventions. Results found that students who participated in a study skills class reported studying for twice as many hours after participating in either an academic study skills course or a counseling intervention. Participants in both groups

also reported using more varied and effective study strategies than students in a control group, an important finding for the advisement and provision of services to students who enroll in college who are unprepared for academic challenges.

Using Learning and Study Strategies and Counseling Interventions to Improve the Academic Performance of University Students Placed on Academic Probation

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Using Learning and Study Strategies and Counseling Interventions to Improve the Academic Performance of University Students Placed on Academic Probation

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CHAPTER ONE

INTRODUCTION AND OVERVIEW OF THE STUDY

Why do so many students who enter college fail to earn a degree? In what ways does failure to acquire study skills contribute to higher levels of college dropouts? Can counseling interventions help to increase academic achievement in college students who are on academic probation? This mixed methods study investigated the use of various types of study skill instruction or counseling strategies that were used to improve students' academic performance in college.

According to a recent national report on college dropouts, one of the major reasons that students drop out of college is their lack of preparation for the rigors of academic work (Harvard University, 2011). Little if any research, has examined the relationship between college students' self-regulation and learning strategies and their academic achievement. Further, few studies have investigated the ways in which college students acquire learning strategies, and why they choose to use or not use them to improve their academic work. No studies could be found that have investigated the question of whether college students from differing backgrounds use the same or different learning strategies to succeed in a learning environment.

Importantly, a dearth of research has examined if academic counseling can contribute to increased academic performance of college students who begin to have academic difficulty. Since almost half of all students who enter college fail to complete a degree (Harvard University, 2011), it is critical that research informs practice about the ways that students placed at risk for dropping out of college can be helped by learning study strategies and engaging in individual counseling sessions as a way to increase their self-regulation skills, which are essential to attain academic success (Zimmerman and Martinez-Pons, 1988).

Statement of Problem

This mixed methods study investigated the use of various types of specific study strategies, such as self-testing, self-regulation, effective note taking, or the implementation of a three week academic counseling intervention on increased academic performance in students who are at risk for dropping out of college. Little research has examined which study strategies work best with students who struggle academically or are placed on academic probation in college. Few studies, if any, have focused on the use of academic counseling to increase academic achievement in college students at risk for dropping out.

According to a recent study, only 56 percent of students who begin a bachelor's degree finish within six years, and only 29 percent of those who begin an associate's degree earn it within three years (Harvard University, 2011). Only 46 percent of Americans who begin college complete their degree, the worst among the 18 countries in a study conducted by the Organization for Economic Co-operation and Development (Harvard University, 2011). Other research indicates that many college dropouts are from low-income families. The U.S. Department of Education, for example, found that only 41% of low-income students enrolled in a four-year institution graduated within five years. In America each year, $400 billion is spent on postsecondary education (Harvard University, 2011) and as much as half of that money is invested in students who flunk out of college or quit because they are failing or have been placed on academic probation.

A compelling article published recently in the *Atlantic Monthly* entitled "Why Do So Many Americans Drop Out of College" summarizes the problem that is the focus of this dissertation:

> The system is incredibly wasteful. The students who show up but never graduate require administrative and academic resources. They take up precious classroom space, shutting other students out of the courses they need to graduate on time. They incur student debt, but don't get a credential, which weighs on their own finances (Weissmann, 2012 p. 1).

Background of the study

The literature review presented in Chapter Two includes sections related to the attrition and retention of college students. This literatures focuses on factors associated with academic success in college, the effectiveness of learning strategy courses in colleges and universities, traditional learning strategies taught to and used by college students, alternative learning strategies for college students, and effective learning strategy instruction and academic counseling strategies used to improve academic performance in college.

Attrition and Retention of College Students

Research about which academic factors are commonly associated with the academic success of college students focuses on students' academic performance in high school. Other factors associated with academic success such as students' study skills and their attitudes about academics. Academic motivation is also a contributor to college academic success, as is high student self-efficacy (Bandura, 1977, 1982).

The Effectiveness of Learning Strategies Courses Used in College or Universities

The research conducted on teaching learning strategies to college students. Specific learning strategies include assuming responsibility, selecting the right environment and the use of feedback. Findings from this research are summarized in Chapter Two. Some college students

fail to benefit from learning skills courses, as some students cannot make the necessary changes, or do not want to change, or continue to fail to learn how and what to change.

Traditional Study Skills Used by College Students

Many successful college students are able to exert control over their own time management and schoolwork schedules as well as over how they study and learn (Pintrich, 1990). Students who manage their time and learning have been found to possess an advantage in higher education when compared with other students who have not developed these self-regulated learning strategies. Zimmerman (1989) has postulated that self-regulated learning involves the regulation of three general aspects of academic learning. The self-regulation of behavior, involving the control of the various resources students have available to them, including their unscheduled time, study environments, and their use of academic supports available to them, such as tutors, faculty or other peers (Garcia & Pintrich, 1994; Pintrich, Smith, Garcia, & McKeachie, 1995). General teaching of learning strategies is also reviewed in Chapter Two as are the results of various meta-analyses about learning skills interventions.

Academic Counseling Strategies to Improve Academic Performance

Chapter Two also includes meta-analyses information about counseling strategies that have a positive impact on retention. Students who voluntarily attended counseling sessions because they were considering leaving college, transferring or became worried about being dismissed from college due to low academic performance can benefit from certain types of academic counseling. Sharkin (2004) defined academic counseling as something that helps students improve study and test-taking skills for the specific purpose of improving academic performance. In summary, a complete review of the research literature addressing these areas is included in Chapter Two.

Research Methodology

The mixed methods research methodology used in this dissertation is summarized in Chapter Three. A combination of quantitative and qualitative methods added both scope and breadth to this type of research study as these techniques both complement and enhance each other (Greene, Caracelli, & Graham, 1989). The primary quantitative method was the use of a randomized controlled study to investigate two different approaches for increasing the academic performance of students placed on probation in a large, public research university. All students were on academic probation for the period of one year prior to the intervention and random selection will be used to place students into one of four conditions. The use of a random control trial enabled the researcher to predict, with confidence, the sample size required, randomize the study participants into groups, apply the intervention to the groups, measure the outcomes for the study sample, and compare and interpret the differences. The randomized control part of the study investigated differences in the use of study practices involving learning strategies and academic counseling with low achieving university students. Both descriptive statistics and multivariate data analyses procedures were employed in this study to investigate the differences in interventions using study strategies or academic counseling as discussed in the Research Questions that are highlighted in Chapter Three.

Approximately 39 students were involved in the randomized trial that compared 9 students who participated in a 3 week academic study skills and self-regulation course (Treatment Group 1), with 10 students who participated in an academic counseling intervention (Treatment Group 2), with 10 students who did not participate in any intervention (control group). Qualitative methods were used to investigate the study strategies and academic counseling strategies that the

research suggested had the most impact on students.

In this study, both quantitative and qualitative methods were used to obtain data about the two interventions. Qualitative methodology was used to extend and describe the research findings for the sample of college students on academic probation and to create case studies of students for descriptive purposes. Survey research was used to gather data about demographic characteristics and the frequency of use of specific learning and academic counseling strategies viewed as helpful to university students on academic probation. This dissertation had limitations which are also discussed in Chapter Three.

Chapter Four of this dissertation includes a summary of the results and findings and Chapter Five, provides a discussion of the research findings and the ways in which they agree with or challenge previous research as well as the significance and implications of this research. As noted previously, over 400 billion dollars are spent each year in our country on postsecondary education and approximately half of that amount is spent on students who quit or flunk out of college. If research-based methods that help retain some of these students can be identified, these resources can be better invested and more students will complete higher education, contributing to the economy and to their own successful postsecondary lives.

CHAPTER TWO

REVIEW OF LITERATURE

The literature review is presented in five sections beginning with attrition and retention of college students followed by sections related to the factors associated with academic success in college, traditional learning strategies taught to and used by college students, alternative learning strategies for college students, and academic counseling strategies used to improve academic performance in college.

Attrition and Retention of College Students

The American College Testing Program (2006) reported average student retention rates from freshman to sophomore year for public-4-year colleges ranged from 66.4% to 70.0%, while private 4-year colleges attrition was found to be 70 to 75 % from 1983-2006. In the well-known book *Leaving College*, Vincent Tinto (1993) stated, "there is in fact, an increasing array of students, young and old, from a diversity of backgrounds who enter higher education unprepared to meet the academic demands of college life" (1993, p. 49). Tinto summarizes some of his research as follows, "between 30 and 40 percent of entering freshman are to some degree deficient in college-level reading and writing skills" (1993, p. 40). A body of recent and previous research suggests that too many students are enrolling in college who are simply not prepared for academic challenges and who do not know how to access or use the study strategies or other internal factors employed by more successful students.

Tinto (1993) developed a longitudinal model of departure from institutions of higher education that helps both to describe and enable comprehension of the complexities that are involved in a student's decision to leave higher education. The model implies "that individual

departure from institutions can be viewed as arising out of a longitudinal process of interactions between an individual with given attributes, skills, financial resources, prior educational experiences, and dispositions and other members of the academic and social systems of the institution" (Tinto, 1993 p. 113). How individuals experience the various systems mentioned above can either confirm or weaken his/her commitment to the institution. Tinto argued that if a student has positive experiences, they strengthen his or her commitment (or the degree to which a student wants to attain certain goals), whereas negative experiences weaken the commitment. The model also accounted for the other communities, such as social and work, those develop within the college environment. Tinto found that these external communities can have an indirect impact on a student's decision to leave or remain in college.

Tinto (1993) also described academic factors that may lead to students being dismissed or withdrawing from college. He suggested that academic struggles are directly linked to students leaving college, usually because academic difficulty leads to dismissal. Academic difficulty is regarded as "a substantial incongruence or mismatch between the skills and abilities of the individual and the level of demand placed on that person by the academic system of the college" (p. 117). The other form of academic difficulty that Tinto believes contributed to students' departure relates to academic boredom, which Tinto defined as, students failing "to become involved in the intellectual life of the college in part because they find that life insufficiently rewarding" (p.117). A student who experiences academic boredom may have the skills to be successful in college, but may lack commitment to either the academic institution or the goals of education.

An additional academic factor cited by Tinto (1993) as a reason for student departure is what he calls incongruence between the student and the institution. Incongruence may arise in

the formal academic settings, or in interactions between faculty and students. Tinto believed that such interactions, both in and out of the classroom "are central to the process by which students come to judge the degree of congruence between their own intellectual orientation and that which characterizes the life of the institution" (p, 117).

Contact with faculty and staff is a final academic reason Tinto (1993) cited as one of the reasons for student departure. Tinto has found that:

> Wide-ranging contact generally leads to heightened commitment and therefore serves, in this manner, to enhance the likelihood of persistence. The absence of interaction, however, results not only in lessened commitments and possibly lowered individual goals, but also in the person's isolation from the intellectual life of the institution. (p. 117).

Tinto (1993) stated that the presence of strong faculty and positive student interaction does not guarantee student retention, but rather that the absence of the interaction altogether significantly increases the chances for student attrition.

Other researchers also contend that faculty interactions with students increase students' retention. Lillis (2012) examined the relationship between student-faculty interactions and student dropout rates and found a positive association between student-faculty interactions and students remaining in college. Another finding from this study revealed that faculty-student interactions that occurred more frequently had a significant impact on a student's decision to stay in college. Other studies have been conducted on specific populations of college students, which also have found that interaction with faculty serves as a key factor in students' retention in higher education. For example, a qualitative study by Palmer et al. (2012) examined the retention of minority students at a predominately white higher education institution. Palmer and colleagues

(2012) found four common themes that emerged as central to minority students remaining in-college; faculty interaction, student involvement, peer support and self-accountability. Another study by Wilmer (2009) studied the retention of students who enroll in developmental courses at a community college. Wilmer found a statistically significant difference between students who participated in a learning community and had frequent faculty interaction, and those who did not, supporting the findings by Tinto and others. In order to fully understand the factors involved in attrition and retention, one needs to understand the factors associated with academic success in the higher education environment.

Factors Associated with Academic Success in College

Russell (1992) identified several academic factors that are commonly associated with the academic success of college students, such as students' academic performance in high school and their scores on college admissions tests. Malloch and Michael (1981), Mathiasen (1984), and Weitzman (1982) also found that students' high school grade point average (GPA) and standardized test scores (such as the Scholastic Aptitude Test and American College Testing Program) are strong predictors of potential academic success in college. Other factors associated with academic success are students' study skills and their attitudes about academics (Russell, 1992). In one classic study, Lin and McKeachie (1970), demonstrated that study skills contributed to academic achievement more than aptitude scores. Other research examined the relationship between study skills and the ability to process information deeply, finding that the ability for deep processing of information was correlated with both effectiveness in study skills and GPA (Gadzella, Ginther & Williamson, 1987).

Russell (1992) also identified academic motivation as a contributor to college academic success. Edwards and Waters (1981) found that academic motivation moderated the relationship between academic ability and GPA, while Hollenbeck, Williams and Klein (1989) identify a positive correlation between commitment to a goal and GPA.

A final factor identified by Russell (1992) as related to academic success was self-efficacy. Self-efficacy theory (Bandura, 1977, 1982) attempts to explain a person's belief in his or her own ability to make changes or successfully perform a task. Lent et al. (1984) studied the relationship between self-efficacy beliefs and academic success in college students, finding that students with higher self-efficacy for academic requirements achieved higher grades (Lent et al., 1984). A study conducted by Multon and colleagues (1991) also confirmed the results of the Lent et al. (1984) study, finding support for the relationship of self-efficacy to academic performance and persistence. The three main factors identified by Russell (1992) that contribute to academic success are, previous performance, motivation, and self-efficacy. Learning strategy courses are one method that university personnel can employ to teach the strategies employed by successful students to students underperforming in academics.

The Effectiveness of College and University Learning Strategies Courses

Some research has been conducted on teaching learning strategies to college students. For example, Tuckman (2011) conducted a study in which 351 freshmen in their first semester in college enrolled in an online learning strategies course (and compared the students to 351 students not in the course). An adaptation of an achievement model for entrepreneurship (McCleand, 1979) was used as the theoretical framework for the four learning strategies used in this course. The first strategy—take reasonable risk—included setting goals and breaking tasks

into smaller pieces. The second strategy—take responsibility for your outcomes—included focusing on self-thoughts and planning. The third strategy—search the environment for information—included asking questions and using visualizations. The fourth strategy—use feedback—included self-monitoring and self-instructing.

Several findings were of interest in this study. First term students who were enrolled in the course reported higher GPAs entering their sophomore year than students who were not enrolled in the course and the students who enrolled in the course had higher graduation rates compared to the control group who were not enrolled in the course (Tuckman, 2011). Results from this study suggest that the students who took this course attained a higher level of academic performance and developed stronger persistence than might have otherwise occurred. Another study conducted by Forster et al. (1999) concluded that participation in a study strategies course had a positive effect on post secondary learners, especially those who were labeled as academically at risk.

Participation in learning strategies courses does not, of course, guarantee academic success. Dembo (2004), for example, investigated common reasons that college students do not benefit from learning skills courses, such as, a) their students' perceptions that they cannot make the necessary changes, b) or students' beliefs that they do not want to change, or c) students' failure to learn how and what to change. Dembo also found that some students simply do not know how to make beneficial changes. Participation in a learning strategies course should show students new ways to study, which would hopefully replace or supplement the study strategies they are currently employing. Examining the traditional study methods used by college students is one technique that could improve the effectiveness and relevance of leaning strategy courses.

Traditional Study Skills Used by College Students

The most common study method employed by college students appears to be rereading content (Callender & McDaniel, 2009; Carrier, 2003; Goetz & Palmer, 1991; Karpicke et al., 2009; Stine-Morrow, Gagne, Morrow & DeWall, 2004). In one study, Carrier (2003) surveyed students in college classes about their use of test preparation techniques and found that 65% of upper level college students report the use of rereading of chapters as the most commonly used study strategy (Carrier, 2003). Other researchers have also found success in the use of rereading as a study method (Amlund et al., 1986; Barnett & Seefeldt, 1989; Howe & Singer, 1975; Krug et al., 1990 and Mayer, 1983). When students reread content, they typically decode the text on two different levels: the surface form and the situation model (Stine-Morrow, Gagne, Morrow & DeWall, 2004). The surface form allows the reader to develop an understanding of the content they read, while the situational model connects content being read to a reader's broader knowledge base (Stine-Morrow, Gagne, Morrow & DeWall, 2004). It is generally believed that when students complete both levels of reading (surface form and situational model), the chances of committing the content to their memory increases (Amlund, Kardash & Kullhavy, 1986; Anderson, 1980; Bromage & Mayer, 1986; Durgunoglu, Mir & Anno-Marti, 1993; Dyer, Riley & Yekovich, 1979; Haenggi & Perfetti, 1992; Howe & Singer, 1975; Krug, Davis & Glover, 1990; Mayer, 1983; Millis & King, 2001; Rawson & Kintsch, 2005).

While a number of researchers support the use of rereading as a study method used by college students, other researchers support a different point of view (Carrier, 2003; Callender & McDaniel, 2009). These researchers suggest that students benefit more from studying when they

actively process the content they are trying to remember (Carrier, 2003; Callender & McDaniel, 2009). A study by Dunlosky and Rawson (2005), for example, demonstrates that even when students reread and apply the situation model to content being read, the benefits are still limited for the student. In one study, for example, researchers found that when students read passages from standardized exams, such as the Graduate Record Exam, the "allocation of resources to the situation model decreased significantly for immediate rereading and showed no significant change for delayed rereading for both low and high ability college age readers" (Callender & McDaniel, 2009 p. 31). Research conducted by Callender and McDaniel (2009) on undergraduate students attending Washington University in St. Louis found that "rereading a text generally did not significantly improve performance on educationally relevant summative assessments" (p.35). In this study, the researchers also found that rereading was not the best preparation method for multiple-choice questions (Callender & McDaniel, 2009). Other research conducted by Weinstein et al. (2010) confirmed the findings of Callender and McDaniel (2009). Weinstein and colleagues tested the effectiveness of self-made comprehension questions on twenty-nine undergraduate students. While the study concluded that generating one's own questions was not universally effective for all students, the use of this strategy was found to significantly improve performance over the use of rereading as a study strategy (Weinstein et al., 2010). The research studies conducted by Callender and McDaniel (2009) and Weinstein and colleagues (2010) raised questions about the findings from other studies mentioned previously in this literature review suggesting the need for additional research about which learning and study strategies work best with a diverse group of college students.

Other Learning Strategies Used by College Students

In addition to more commonly taught learning and study strategies, research has been conducted on the use of other ways to teach college students to study. In this section, several of those strategies are reviewed, including self-testing and self-regulation learning strategies.

Self-testing, or the act of repeatedly recalling information has been investigated in numerous studies over the last several decades, and most have concluded that this is an effective way to study and recall information for assessments (Gates, 1917; Jones, 1923-1924; Spitzer, 1939; & Tulving, 1967). The effectiveness of this technique has been termed the testing effect (Roediger, 2006). In one important study conducted by Carrier and Prashler (1992), a series of carefully conducted experiments found that retrieval results in better retention of information. In another study, Hartwig and Dunlosky (2012) surveyed 324 undergraduate students, demonstrating that the use of self-testing was positively associated with GPA. Despite the proven effectiveness of self-testing and retrieval strategies, Karpicke et al. (2009) found that the majority of college students do not use this method, preferring to simply reread their notes. Karpicke et al. (2009) drew several conclusions based on the results of their study, finding that many students are not aware that retrieval practices enhance the learning process, and that instructors should inform their students of the benefits of retrieval/self-testing to their students.

Research has also been conducted on different schedules of information retrieval practice. Landauer and Bjork (1978) suggest that expanding the retrieval schedule by having students spread out the amount of time and number of times they review the content being studied will improve long-term retention as opposed to using equal interval schedules. Their findings indicated that students who reviewed content scored better on tests when they expanded their review time as opposed to using a fairly short retrieval time (ideally 30 minutes). Roediger (2011) supported Landauer and Bjork's (1978) finding that "the general conclusion is that the

best retrieval schedules are those that involve wide spacing of retrieval attempts" (p. 22). There are many implications for this information as it is applied to student study strategies.

Many college students are able to exert control over their own time management and schoolwork schedules as well as over how they study and learn (Pintrich, 1990). Students who manage their time and learning have been found to possess an advantage in higher education when compared with other students who have not developed these self-regulated learning strategies. Zimmerman (1989) stated that self-regulated learning involves the regulation of three general aspects of academic learning. The first aspect is self-regulation of behavior, which involves the control of the various resources students have available to them. These resources include their unscheduled time, study environments, and their use of academic supports available to them, such as tutors, faculty, or other peers (Garcia & Pintrich, 1994; Pintrich, Smith, Garcia, & McKeachie, 1991). The second aspect, self-regulation of motivation and affect, involves controlling motivational beliefs and attitudes such as self-efficacy and goal setting, so that students can adapt to the academic demands and expectations (Garcia & Pintrich, 1994; Pintrich, et al., 1993). The third aspect, self-regulation of cognition, involves students' control of various strategies for learning, such as the use of processing strategies that result in better learning and performance in academics (Garcia & Pintrich, 1994; Pintrich, et al., 1993).

Self-regulated learning is considered to be critical for academic success. For example, Zimmerman and Martinez-Pons (1988) found that the performance of students who used self-regulated strategies was highly correlated with their academic performance. Zimmerman (1989) identified several specific self-regulated learning strategies. One strategy is *self-evaluating*, which involves students assessing the quality of their work. Another is *organizing and transforming* where students manipulate content to improve learning. G*oal setting* involves

students setting goals and sub-goals and mapping out a process to achieve these goals, while another strategy, *seeking information,* involves students looking for school-related information from academic sources (not social resources). Another strategy is *record-keeping and monitoring* which involves students taking notes or maintaining a list of concepts or terms they need to study over a long period of time. Still another is *environmental structuring* that enables students to know and understand where they can best study and create that specific environment. S*elf-consequating* involves students rewarding or punishing themselves based on the outcomes of academic assessments, while *rehearsing and memorizing* involves students reviewing content multiple times. Still other self-regulation strategies include *seeking social assistance* when students learn to ask for help from a person with superior knowledge on a particular topic, and finally, *reviewing records,* which involves students rereading their notes, textbooks or other forms of documentation from classes. The complex interaction between a specific learning strategy and the academic characteristics and background of a particular student complicate the process of teaching learning strategies.

Learning Strategy Instruction

General teaching of learning strategies in isolation from content has not been found to be particularly effective at helping students improve their grades (Garner, 1990; McCombs, 1984; Pintrich & de Groot, 1990; Tabberer, 1984). In a meta-analysis on learning skills interventions conducted by Hattie et al. (1996), several specific recommendations for increasing learning strategy use and outcomes were noted, as the researchers suggested that "if strategy training is carried out in a metacognitive, self-regulative context, in connection with specific content rather than generalized skills, and if such training is supported by the teaching itself, positive results are much more likely" (p. 101). A second recommendation by Hattie et al. (1996) was for research

focused on a single aspect of studying rather than studies focusing on the use of multiple strategies in a short period of time. Hattie's final recommendation was to pair the study strategies with a behavioral or self-control intervention (known as a multi-component intervention). As discussed previously, even well designed study strategy courses may not be personalized enough for every student. In these situations, structured academic counseling as discussed in the next section may be a better alternative, due to the complete individualization and personalization of the content.

Academic Counseling Strategies to Improve Academic Performance

A meta-analysis conducted by Sharkin (2004) of 109 studies found that counseling used with college students demonstrates that these strategies can have a positive impact on retention. For example, one study in the meta-analysis was conducted by Bishop and Brenneman (1986) and tracked the academic progress of students who voluntarily attended counseling sessions because they were considering leaving college, transferring or became worried about being dismissed from college due to low academic performance. After several counseling sessions, 86% of the students remained in school for at least one more semester, and only 3 students who received the counseling sessions chose to leave school. Another study conducted by Bishop and Walker (1990) followed the academic progress of 60 students who also sought counseling for retention related issues. A survey was sent to these students a year later, and the results indicated that 80% of the students were still enrolled as full time students, and that their counseling experiences contributed to their decision to stay in school.

Sharkin (2004) defines academic counseling as something that "aims to help students improve study and test-taking skills for the specific purpose of improving academic

performance" (p.100). Boyd et al. (1996) evaluated a summer program that provided academic counseling to participants. Seven skill areas were addressed at the summer retention program: time management and goal setting, listening and note taking, textbook mastery, working with the University system, career exploration, networking and assertiveness, and overcoming resistance to academic success (Boyd et al., 1996). In this study, 153 students participated in the summer retention program, and results indicated that participation in the program did have a positive impact on students' ability to persist at the institution, meaning they remained in school. A study conducted by Isakson and Call (1991) indicated that freshman on academic probation who met with an academic counselor or peer mentor had greater improvement in GPA at the end of the semester than students on probation who did not seek out academic counseling. Bland et al. (1987) found that college freshmen in academic trouble who had at least one diagnostic and prescriptive interview with an academic support counselor were more likely to remain in good academic standing the semester following treatment than students in the control group.

Another study by Wlazelek (1999) explored the effectiveness of academic counseling used with 414 college students who were in academic jeopardy. Four doctoral-level counseling center staff members provided academic counseling to students, following a similar format. The first session focused on building a relationship and rapport with the students. That session was followed by a second session in which academic problems were assessed, a response plan was developed, and the student was given information on academic resources and strategies (Wlazelek, 1999). Students who participated in academic counseling for one semester demonstrated significant increases in overall GPA. A secondary finding from this study (Wlazelek, 1999) related to students who only attended one academic counseling session but still, after only one session, showed a slight increase in their GPA. No randomized study could

be found that compared various types and lengths of interventions and their outcomes on academic performance.

Conclusion

The U.S. Department of Education reports that, only 41% of low-income students enrolled in a four-year institution graduated within five years. A compelling article published recently in the *Atlantic Monthly* entitled "Why Do So Many Americans Drop Out of College" summarizes the problem that is the focus of this dissertation:

> The system is incredibly wasteful. The students who show up but never graduate require administrative and academic resources. They take up precious classroom space, shutting other students out of the courses they need to graduate on time. They incur student debt, but don't get a credential, which weighs on their own finances (Weissmann, 2012 p. 1).

The institutional differences between secondary education and higher education explain much of the student retention problem. In secondary schools, students spend more time in class, others manage their time, and multiple assignments contribute to students' grades. In higher education, students spend less time in class, they have to manage their own time, and fewer assignments contribute to their grades. These institutional differences coupled with the increased enrollment of non-traditional students are responsible for the student retention problem in higher education. Tinto's theory (1993) clearly points to both of these issues as being essential elements in causing the student retention problem. Clearly, the realities of the higher education environment require students to adapt to new challenges academically. The higher education environment requires extensive student self-regulation—including developing effective time management and utilizing active learning strategies. Many students can and do develop these strategies on their own; however, some students need assistance to learn to use these strategies.

Learning strategy courses serve as one approach for helping students to develop self-regulation. Academic counseling serves as another approach for helping students to develop self-regulation. The question that has not been addressed in the empirical literature is which approach more effectively improves students' self-regulation.

This study examined the effectiveness of a structured learning strategies course compared to sessions of individual academic counseling. The research summarized in this review of research suggests that certain study skills and counseling programs work better than others. For example, some types of counseling strategies used with college students have had a positive impact on grades and college retention (Wlazelek, 1999). Zimmerman's (1989) work on self-regulated learning also has demonstrated that students can learn to regulate their unscheduled time, study environments, and their use of academic supports (Garcia & Pintrich, 1994; Pintrich, Smith, Garcia, & McKeachie, 1991). Few studies, however, have identified the specific types of study strategies or counseling approaches that should be used with college populations placed at risk and the period of time for which they should be implemented. Even fewer randomized control trials have been conducted to investigate the use of these strategies.

This dissertation addressed some of the questions posed in this review of research and has the potential to contribute to the effort to reduce attrition and increase retention by the use of research-based strategies that have resulted in an increase in university students' grades.

CHAPTER THREE

METHODS AND PROCEDURES

This chapter describes the methodology used in the study. The first section summarizes the research methodology and instrumentation used, including the surveys. The next section describes the methods and procedures, including the sampling procedures and data collection. The chapter concludes with the methods used to address each research question, including the qualitative and quantitative data analysis procedures.

Mixed methodologies were employed in this dissertation, combining quantitative and qualitative procedures to add breadth to this research, as these techniques both complement and enhance each other (Greene, Caracelli, & Graham, 1989). The primary quantitative method was the use of a randomized controlled design to investigate the efficacy of two different approaches developed to increase the academic performance of students who had been placed on academic probation in a large, public research university.

To address the research questions in this study, a multiple comparative case study methodology was also employed. Comparative case studies provide ways to explore complex social phenomena, such as why capable high school students, who were formerly successful, fail when they enter the university, to make adequate academic progress. One-on-one counseling sessions or discussions before, during, and after classes provide the contexts within which conversations can explore social phenomena, therefore indicating the applicability of this research approach for this study. Comprehensive comparative case study research cannot be generalized to the larger population, but it can, however, be generalized to theoretical propositions (Yin, 2009) about why some students underachieve in a university setting.

All of the students who participated in the study were on academic probation for a period of one year prior to the intervention. Random selection was used to assign students into one of three conditions: a study skills class, an academic counseling intervention, and a control group. The use of a random control trial enabled the randomization of the study participants into one of these three groups and the measurement of the outcomes for all groups enabled the researcher to compare and interpret the differences. This randomized controlled study investigated differences in the use of learning strategies and study practices as compared to academic counseling with lower achieving university students placed on probation. Both descriptive statistics and multivariate data analyses procedures were employed to investigate the differences in two interventions, a study skills course or an academic counseling opportunity, as compared to each other and a control group of students on academic probation.

Instrumentation

The Acquisition and Use of Study Skills and Learning Strategies (AUSSLS) (Appendix A) and the Academic Counseling Strategies (ACS) (Appendix B) surveys were adapted from an instrument entitled the Learning Strategies and Study Skills Survey (LSSS) (Ruban, 1999, Ruban & Reis, 2006). The original LSSS included 58 items that were used "to describe whether patterns of use of self-regulated learning strategies vary among the different populations of university students" (Ruban, 1999, p. 15). Ten items were adapted from the LSSS and used in the new AUSSLS. On five f these 10 items, participants were asked to check one or more options that applied to them. The remaining five items were open-response questions in which students were asked to provide their thoughts and feedback about a statement.

Rubin (1999) acknowledged that the items on the LSSS were adapted from the 47-item Study Skills Self Efficacy Scale (SSSE) (Ramirez & Owen, 1991) and from Barry Zimmerman's (1989) publications on self-regulated learning so it is important to note that some of the items on the two new instruments used in this study may have their roots in these instruments as well. Reliability and validity data are reported on both of the previous instruments upon which the AUSSLS and the ACS are based. Alpha reliabilities for each of the five factors on the SSSE ranged from .78 to .91. Internal reliability consistencies were calculated for the LSSS in a pilot study (Rubin, 1999) for the different dimensions of the instrument: conceptual skills, .88; study routines, .76; routine memorization, .74; reading and writing metacognitive strategies, .68; memory and organizational strategies, .59; compensatory supports, .70; and help seeking, .70 (Rubin, 1999).

Sample

The sample in this study included 116 undergraduate students in the College of Liberal Arts and Sciences (CLAS) whose names were included on the academic dismissal list for the spring of 2012. Students enrolled in the CLAS who receive a term GPA of 2.0 or below are routinely placed on academic probation. These students are encouraged to meet with an academic advisor in the CLAS Academic Support Services Center. If a student's term GPA falls below 2.0 for three consecutive semesters, he or she is subject to academic dismissal, and receives a letter explaining that they will be dismissed from the University for their poor academic performance. Students on the dismissal list can appeal their dismissal and if they choose to submit an appeal, they are given guidelines for their written appeal submission. If students appeal a dismissal, the written appeal is presented before a committee of faculty and staff assembled by the director of academic support services in CLAS. The academic dismissal

committee has the authority to decide if the student who appeals can remain at University for another semester. The appeal process is an opportunity for a student to submit a written statement to the dismissal committee to explain the steps that he or she has taken and will take in the future to improve his or her academic performance at University.

Of the 116 students contacted through two separate emails (Appendix D) to participate in the study, only 29 students agreed to participate. These 29 students were randomly assigned to one of three groups: the learning skills class, the academic counseling intervention, and the control group. The final random distribution of students included 9 students in the learning skills class (treatment group 1), 10 students in academic counseling (treatment group 2), and 10 students in the control group (group three).

Statistical Power

The sample size in this study (n=29) was not sufficient to achieve the minimum statistical power necessary to conduct the analysis. The minimum sample size required to conduct a one-way ANOVA for three groups to detect a medium effect size (f=0.15) is 42 participants. The same number of participants is needed for the omnibus test (F statistic) and 42 participants to compare the contrasts necessary to answer research questions one through three as well. The observed statistical power for this study was calculated using G*Power (Faul et al., 2007), and was 0.10 to conduct the omnibus test and the necessary contrasts to detect a medium effect size. This statistic indicates that this study was significantly underpowered to answer research questions one through three, and these limitations are noted in chapter five.

Description of the Interventions

The two interventions and the procedures for the control group are described in this section. The learning skills class, also referred to as treatment group one met twice a week for

three weeks. The hour-long learning skills classes were specifically structured to integrate specific learning strategies with the students' academic work. The content for this class was developed from recommendations reported in the empirical literature (Hattie et al., 1996), and the class was developed not as a comprehensive overview of a multitude of new learning strategies, but rather, a focus on three to four trategies. In addition, the class incorporated a key element that takes place in counseling sessions, which is explaining why something may work. The explanation and rationale for using a specific strategy occurred during the first class of each of the three weeks, and the implementation and practical practice took place during the second class of the same week. The course content that was included in the learning skills course is summarized in Table 3.1.

Table 3.1 *Content from the Learning Skills Course*

Week / Course	Content
Week 1: Class 1	• Introduction to self regulation o Self-regulation theory o Self-regulation strategies o Positive implications of self regulation
Week 1: Class 2	• Applying self-regulation strategies o Goal setting strategy use o Organization strategy use o Time management strategy use
Week 2: Class 1	• Alternative ways to study for tests / assessments & effective note taking o Self-Testing o Information retrieval schedule o Notes as an effective study tool
Week 2: Class 2	• Applying new study and note taking strategies o Self-testing strategy use in various forms including; outline and note card use o Class note taking strategies o Reading note taking strategies

Week 3: Class 1	• Developing a personal study plan
	  o How to incorporate the strategies into studying for different classes
	  o Review of support services at the University to aid with studying

Week 3: Class 2	• Creating a specific study plan that will be submitted to CLAS Academic Support Services

Students randomly placed in treatment group two (n=10) received individual academic counseling by either the researcher or a second year school counseling Master's degree student. The researcher trained these graduate students in the academic counseling intervention and also provided them with the materials used in the learning skills course, as background. In addition, they were given a set of materials and resources to guide them in the counseling intervention with each participant. The counseling sessions took place twice a week during the same three-week time period as the learning skills class. The counseling protocol was developed from research about effective counseling interventions used at other universities (Bishop & Brenneman, 1986; Bishop & Walker, 1990; Boyd et al., 1996; Sharkin, 2004).

A key distinction between the interventions in Treatment one Study Skills Class and Treatment two, counseling is that the counselors were working individually with students to identify the problems and use their counseling expertise to determine which study methods to introduce to the participants. The researcher and the graduate students in school counseling followed a semi-structured protocol (Table 3.2) in which an attempt was made to identify several presenting problems related to why the student was on academic probation, discuss the problems

with the student, and subsequently, make a determination about which study strategy or strategies the student should implement to address the problem.

Table 3.2 *Academic Counseling Protocol*

Counseling Session	Protocol
Week 1: Session 1	• Get to know client. • Introduce client to academic counseling strategies, discuss some things you will be working on over the next three weeks. • Discuss student's current coursework. • Ask the client to describe what he/she feels are the biggest challenges to success in their academic life (ask for specific examples). • Ask client how he or she feels about working together, enable time for any questions that exist, and time for suggestions about what the client believes he or she would like to work to correct or change.
Week 1: Session 2	• Summarize what was discussed last session. Be sure to review the academic problems the client mentioned. Ask client if they still feel that those are the most prominent issues. • Pick one of the academic issues presented, and ask the client to give you as many details as possible about it (how it affects academics, when it occurs etc). • Create a plan with a strategy or two that the client will try at least twice before the next session to work on solving the problem.
Week 2: Session 1	• Ask how the trial intervention(s) went. Was it effective? What worked? What did not work? • Discuss if the intervention was successful at eliminating the academic problem. • Discuss whether the intervention was something that the client believes that he/she will use on a regular basis (why / why not?). • Discuss the changes that would need to be made to the intervention for it to be more effective and more personalized to the client's needs. • Ask the client to try the intervention or a new intervention two more times before the next meeting.

Week 2: Session 2	• Ask how the second trial interventions went. Was the intervention effective? What worked? What did not work? Was it easier this time around? • Does the client feel more comfortable incorporating this into his/her everyday study routine? What will they do to make this part of their routine? • Pick another one of the academic issues presented, and ask the client to give you as many details as possible about it (how it affects academics, when it occurs etc). • Create a plan that the client will try at least twice before the next session to work on solving the problem.
Week 3: Session 1	• Ask client if he/she is still using the first strategy you discussed. • Ask how the trial interventions went. Was it effective? What worked? What did not work? • Discuss if the intervention worked to eliminate the presenting academic problem. • Is the intervention something that the client feels he/she will use on a regular basis (why / why not). • Discuss what changes need to be made to the intervention for it to be more effective and personalized to the client's needs. • Ask the client to try the intervention two more times before the next meeting. • Ask client to begin drafting a letter to CLAS academic services on the new academic strategies they are using.
Week 3: Session 2	• Acknowledge that this is your last meeting. • Ask how the second trial interventions went. Was the strategy or strategies effective? What worked? What did not work? Was it easier this time around? • Does the client feel more comfortable incorporating this into his/her everyday study routine? What will they do to make this part of their routine? • Ask client to finish letter and submit to CLAS academic services. • End the meeting discussing how the client can continue to incorporate various academic study strategies into their everyday life, and make them part of his/her routine.

Ten students were also randomly assigned to the control group. The control group did not receive an intervention in the fall of 2012; but they were offered the opportunity to attend a

learning skills course during the spring semester of 2013. The control group participants signed an information consent form granting the researchers permission to access their spring 2012 and fall 2012 GPAs in order to investigate whether differences existed.

Data Collection

Data collection was conducted in the fall of 2012. Two methods of data collection procedures were used in this study, including the use of surveys and access to participant academic records from the University. All students who participated in the study attended one of several information sessions in which the purpose of the research study, assignment to different treatment groups, participation, confidentiality and the incentive were explained and the following points were summarized:

a) The purpose of this research study was to investigate if different types of study skill instruction or counseling strategies improved students' academic performance in college.
b) Students who chose to participate would be randomly placed into one of three treatment groups; learning skills class (treatment group one), academic counseling (treatment group two), or the control group (group three).
c) Participation in the study was voluntary, and students could withdraw at any point during the study.
d) Students' responses on the surveys would be confidential, and would be used only by the researcher.
e) Students' names would be replaced with an alias and only the researcher was aware of the codebook.

f) Students' grades and academic records would be kept in a secure location and would be viewed only by the researcher.

g) Students in treatment groups one & two would be eligible for the incentive[1], or, exempt from dismissal if they completed all of the requirements of the study and met the requirements established by the CLAS Academic Services Center. If students did not meet the requirements of the study, such as having multiple unexcused absences from either the class or counseling appointments, or were in the control group (group three), they would still be able to appeal their dismissal through the regular academic dismissal appeal process.

All students who wanted to participate in the study were required to sign an informed consent form and this study was approved by the Institutional Review Board (IRB), IRB, Protocol #H12-253 on October 22, 2012.

Survey Distribution and Completion

Students in treatment groups one and two were administered surveys to complete during the first and final days of their respective interventions. Participants in treatment group one, the learning skills class, were asked to complete the AUSSLS (Appendix A) in the classroom on both the first and final day of the intervention. During both administrations of the survey, students were given instructions by the researcher and given as much time as they needed to complete the survey. All nine of the participants completed both the pre and post survey as it was administered in person during the class. Students in treatment group two, the academic

xxxi

[1] Students who participated in this study (treatment groups one and two) were eligible to be exempt from dismissal, if they also met the requirements set by their academic counselor. All students on the academic dismissal list are able to appeal their dismissal, and potentially remain at the University.

counseling intervention, were asked to complete the ACS (Appendix B) during the first and final counseling sessions. The academic counselor assigned to each student administered the survey, after giving the students instructions, and students were given unlimited time to complete it. Each of the 10 students who received academic counseling completed the pre and post ACS as it was administered in person during their counseling sessions.

Academic Record Collection

Participants' academic transcripts were also accessed as part of the study. Permission was granted to use this information when the students signed the informed consent form. Both term GPA and participants' cumulative GPA from spring 2012 and fall 2012 were entered into an excel spreadsheet. In addition to this information, the total number of credits that had been completed by each participant was also recorded.

Analyses used to Address Research Questions

To address the first three research questions, quantitative analyses were utilized. A one-way ANOVA was calculated comparing the mean semester GPA for the three groups to address the first three research questions, listed below.

1. Are there statistically significant mean differences in grade point average improvements between students on academic probation who complete a Study Skills and Self-Regulation (SSSR) intervention consisting of a three-week class that meets twice each week for two hours (Treatment one) and students on academic probation who complete a three-week academic counseling intervention (Treatment two for two one hour sessions each week?

To address research question one, an analysis of variance (ANOVA) was conducted to compare the mean semester GPA for Treatment Group one with the mean semester GPA for Treatment Group two.

2. Do students on academic dismissal who complete a Study Skills and Self-Regulation (SSSR) intervention consisting of a three-week class that meets twice each week for two hours (Treatment one) earn higher grade point averages (GPA) than students on academic probation who do not attend the intervention (control)?

To address research question two, an ANOVA was conducted to compare the mean semester GPA of Treatment one with the mean semester GPA for the control group.

3. Do students on academic dismissal who complete a three-week academic counseling intervention (Treatment two) for two one hour sessions each week earn higher grade point averages (GPA) than students on academic probation who do not attend the intervention (control)?

To address research question three a third ANOVA was conducted to compare the mean semester GPA for Treatment one with the mean semester GPA for treatment group two

4. Which study strategies are described as being most useful to students who complete a three week Study Skills and Self-Regulation Course (Treatment one?
5. Which academic counseling strategies are described as being most useful to students who complete a three week program in academic counseling (Treatment two)?

To address research questions four and five qualitative analyses were utilized. A deductive coding procedure was used to code the responses on the surveys. The number of students who reported using each strategy was presented, as were differences in the number of strategies reported pre- and post- interventions. To investigate the perceived effectiveness of the

academic counseling strategies in Treatment two (research question five, descriptive data were reported on the numbers of usage for each strategy. Four case studies were also compiled representing two students from each treatment group in order to illustrate which study and learning strategies were perceived to be the most useful to the students and to explore in depth why those strategies were either successful or unsuccessful (Miles & Huberman, 1994; Yin, 2009).

The qualitative part of this research was primarily concerned with the perceptions and educational study experiences of these university students. The students profiled in descriptive case studies, (Miles & Huberman, 1994; Yin, 2009) enabled the examination of similar and contrasting cases, to better describe the findings of the study and increase the overall confidence of the study (Miles & Huberman, 1994). Qualitative coding enabled observations, open-ended questions, and responses to be coded and analyzed according to themes in order to analyze and present a more comprehensive view of the common characteristics of study patterns and learning strategies used by university students placed on academic probation. The different categories that emerged from this coding related to study factors, environment, and students' self-perceptions of their patterns for studying and learning difficult material.

Limitations

This study had several limitations, including data collection conducted through self-report surveys, the relatively low number of participants, the timing of the intervention, instrumentation, and the attitude and motivation of the participants. According to Isaac and Michael (1997), surveys have limitations since they depend on the direct communication with persons selected for an investigation. Some of the risks of generating misleading information

include the following: (a) surveys only tap respondents who are accessible and cooperative; (b) surveys may generate some "artificial" and "slanted" data; (c) they sometimes result in "response sets", or tendency to agree with positive statements; and (d) surveys may result in "over-rater" or "under-rater" bias as evidenced by some respondents' predisposition to consistently report high or low ratings (Isaac & Michael, p. 137).

In this study, the personnel working with students in the respective intervention groups distributed the surveys to all groups. To ensure the integrity of the data, the researcher assured all respondents that their responses would be held in strict confidence. Also, in this study, the researcher designed and taught all of the study and learning skills courses and conducted five out of the 10 counseling sessions and a certain degree of subjectivity may therefore exist related to the interventions.

Even randomized trials have limitations, as generalizability of the results may be a concern. For example, in this study, we cannot generalize the results of this study to students on academic probation in other universities or to other students not on academic probation.

The number of participants in the study was a significant limitation. A power analysis was conducted to determine the size of a sample to generalize findings with statistical confidence. G*Power (Faul, 2007) was utilized to determine the appropriate sample size for a one-way ANOVA comparing three groups. The f effect size estimated for the power analysis was .5, which represents a one point increase in grade point average for the students in the treatment groups. This magnitude of effect represents a medium potential effect size, and the alpha was set to .05. To achieve the minimally acceptable level of statistical power (β=0.8) given the other parameters described above, this study needed to enroll a minimum of 42 participants. This represents 14 people in each group. Due to potential attrition, 15 students

were invited to participate in each group. After numerous information sessions, and a proactive recruitment process, only 29 students agreed to participate in the study, 9 students in treatment group one; 10 students in treatment group two; and 10 students in the control group. The small number of participants in the study meant that the quantitative analyses would most likely not result in statistically significant findings. In subsequent research, a different method may be used such as recruiting students across the university, instead of only in one of the colleges or schools might be used to overcome the smaller sample size. Also, a different timeframe could be used for a replication study, as discussed in the next section.

Another limitation of the study was the timing of the intervention. The IRB approved the study in late October of 2012, which meant that data collection had to take place in November and the first week of December 2012. This is late in the semester to begin an academic intervention, as students are nearing the end of their classes and are already set in their study habits and behaviors toward their courses. Furthermore, it is questionable whether any significant cognitive or behavioral changes made by students at this point in the semester would be reflected in their final semester grades. Other research conducted on these types of interventions did not mention the timing of the intervention as significant to the effectiveness of the study.

An additional limitation associated with timing was the length of the intervention. Empirical support existed for a three-week intervention, (Bishop & Brenneman, 1986; Hattie et al., 1996), however, the time period may have been too short for meaningful change to occur. For participants who were motivated and wanted to change, three weeks may have proved to be an adequate amount of time, but for others this may not have been enough time to learn and continue practicing new behaviors. Participants in treatment group one the learning skills

course, could have used more time to practice the study skills learned; and those in treatment group two the academic counseling group, could have used more time to allow the counseling relationship to develop.

The instrumentation used is also a limitation as it was adapted from other instruments and most items were open-ended so that reliability and validity studies were not conducted on the questionnaire. Also, in the process of completing the study, other questions arose that might have been asked on the original questionnaire but could not be incorporated into the study due to IRB permission given to use the original version. In future research, other questions can be added to the questionnaire. Inherent limitations exist to construct validity in survey-based studies. Student self-report of their reading efficacy and self-regulated learning strategy use may represent socially desirable responses.

Treatment diffusion and treatment fidelity are also concerns within this study. Although efforts were made to ensure the existence of similarities across counseling sessions, these sessions were conducted by counseling MA students, as well as the researcher. It is impossible to guarantee strict adherence to the protocol in each situation, which is reason that treatment fidelity is a limitation. Efforts were carried out to ensure that the counseling intervention was implemented with integrity, but there is no way to control the strict adherence to the implementation.

Another limitation in this study is the use of self-reported data including discussions in the classes and conversations in the counseling interventions. Self-reported data are limited by the fact that these findings rarely can be independently verified so that the readers of this dissertation have to rely on the honesty and integrity of the researcher's reporting of conversations in interviews and classes. Self-report data include several potential sources of bias

that can serve as limitations: (1) selective memory which involves remembering or failing to remember experiences or events that occurred at some point during the study; (2) telescoping, or focusing on events that occurred at one time as if they occurred at another time; (3) attribution, in which the researcher attributes positive events and outcomes to her own actions but negative events and outcomes to other external forces; and, (4) some form of exaggeration, which might result in the researcher representing outcomes or embellishing events as more significant than is actually suggested from the data. The researcher attempted to address these limitations by having a university expert in students on academic probation attend the classes and by having other counselors administer the academic counseling intervention.

Another limitation of this study was that the researcher developed and administered the intervention and this might have led to bias about its success or use. This was addressed by basing the intervention on the best research available that is summarized in Chapter Two, having observers in the classes, and having others administer the counseling intervention and giving feedback about it.

In Chapter Four, the results of the study are presented, including the case studies, and the summaries of findings from both the quantitative and qualitative analyses. The research questions are restated and findings and results summarized for each.

CHAPTER FOUR

RESULTS

In this chapter, the results of this dissertation are presented. The quantitative results for research questions One through Three are summarized as are the qualitative findings for research questions Four and Five. A discussion of these findings is included in Chapter Five as are the implications for the study and ideas for research that would extend and enhance these results and findings.

Overview of quantitative data results

A one-way analysis of variance (ANOVA) was conducted to identify whether statistically significant differences occurred among the means of the Fall 2012 GPA for the three groups in this study. Before conducting this analysis, the Levene statistic was calculated (F=0.947, p=0.401) to determine if the assumption of homogeneity of variances, a necessary assumption to investigate before determining whether the use of the ANOVA procedure was appropriate. The difference among the groups was not statistically significant indicating that the assumption was appropriate for this sample. The ANOVA procedure yields an F statistic, which detects if any potential contrasts in the group means are statistically significant. The Spring 2012 and Fall 2012 GPAs for participants are displayed in Table 4.1, and the results of this procedure are displayed in Table 4.2.

Table 4.1
Participants' GPA

Student Name	Treatment Group	Spring 2012 Term GPA	Spring 2012 Cumulative GPA	Fall 2012 Term GPA	Fall 2012 Cumulative GPA
Jim	Control	.93	2.013	2.96	2.14
Calvin	Control	1.92	1.41	1.8	1.7

Denise	Control	1.77	1.93	1.27	1.87
Jenny	Control	.65	2.21	1.85	2.16
John	Control	1.75	1.75	.65	1.5
Ron	Control	2.26	1.86	1.07	1.59
Randy	Control	.21	1.79	1.39	1.94
Louise	Control	1.6	2.31	2.4	2.38
Mary	Control	1.56	1.52	3.0	1.72
Cal	Control	1.8	2.07	2.3	2.11
Jack	Academic Counseling	1.07	1.88	2.43	1.933
Kourtney	Academic Counseling	1.91	2.81	2.48	2.78
Shawn	Academic Counseling	1.8	1.97	1.32	1.91
Mitch	Academic Counseling	1.91	1.68	1.71	1.69
Henry	Academic Counseling	2.1	1.9	2.38	2.05
Ralph	Academic Counseling	1.55	1.69	2.32	1.85
Marty	Academic Counseling	1.35	2.5	2.65	2.64
Ivan	Academic Counseling	2.0	1.98	1.42	1.97
Sandy	Academic Counseling	.6	1.28	1.28	1.28
Ray	Academic Counseling	1.23	1.83	1.3	1.62
Paul	LS Class	1.89	2.24	2.79	2.44
John	LS Class	.87	1.56	.21	1.33
Savannah	LS Class	1.15	2.43	1.23	2.28
Tamara	LS Class	.43	2.1	1.16	2.07
Nate	LS Class	.6	1.21	1.49	1.28
Jay	LS Class	2.2	1.98	2.83	2.14
Jamie	LS Class	1.42	2.30	2.44	2.32
Edward	LS Class	1.69	2.1	2.46	2.18
Jimmy	LS Class	2.14	1.97	1.55	1.88

Table 4.2

ANOVA for Fall 2012 GPA

Source	*df*	*F*	*P*
Between	2	0.074	0.929
Within	26		

The results of the ANOVA indicated that there were no contrasts that were statistically significant. The specific contrasts of interest in this study address the first three research auestions and are discussed in the following three sections despite the fact that the differences in GPA among the treatment and control group were found not to be statistically significant. Limitations exist, however, regarding the use of this procedure due to the sample size required as explained in Chapter Three.

Overview of qualitative data results

The qualitative findings of this study suggest that some students enter colleges and competitive universities unprepared for the rigors of post-secondary study. As the data collection qualitative phase of this study emerged, it became clear that the most interesting findings could be better presented through the use of comparative case studies of these students. Students who failed to thrive in this large public university showed a distinct pattern of individual similarities and differences and the only qualitative reporting structure for summarizing the unique situations of these students was through the use of comparative qualitative case studies that enabled the researcher to draw meaning across differing individuals who fail for different but similar reasons. As will be noted in this section, the qualitative findings of this dissertation strongly suggest that the students who participated in this study do not know how to study and are unprepared for basic tasks that predict success in their postsecondary lives, such as attending class regularly, communicating with their professors, completing required reading, employing even minimal

study, self-regulation, and time management skills. These findings are presented by research question and then in the unique case studies that follow.

Research Question One

Are there statistically significant mean differences in grade point average improvements between students on academic probation who complete a Study Skills and Self-Regulation (SSSR) intervention consisting of a three-week class that meets twice each week for two hours (Treatment one) and students on academic probation who complete a three-week academic counseling intervention (Treatment two for two one hour sessions each week?

The difference in mean scores of the Fall 2012 GPAs for participants in Treatment Group one as compared to Treatment Group two were not statistically significant. The observed differences were 0.13 and the 95% confidence interval for this difference using a Bonferroni adjustment procedure was -.75 to 1.04. The ANOVA results for this comparison were not statistically significant, as no significant differences were found between the 2012 Fall GPAs of Treatment one and Treatment two, as reported in Table 4.2.

Research Question Two

Do students on academic dismissal who complete a Study Skills and Self-Regulation (SSSR) intervention consisting of a three-week class that meets twice each week for two hours (Treatment one) earn higher grade point averages (GPA) than students on academic probation who do not attend the intervention (control)?

The difference in the mean Fall 2012 GPAs for participants in Treatment Group one and participants in the control group was not statistically significant. The observed differences were 0.08 and the 95% confidence interval for this difference using the Bonferroni adjustment procedure was -.81 to .97.

Research Question Three

Do students on academic dismissal who complete a three-week academic counseling intervention (Treatment two) for two one hour sessions each week earn higher grade point averages (GPA) than students on academic probation who do not attend the intervention (control)?

The difference in mean scores Fall 2012 GPAs for participants in Treatment Group two and participants in the control group were not statistically significant. The observed differences were 0.06 and the 95% confidence interval for this difference using the Bonferroni adjustment procedure was -.92 to .82.

Research Question Four

Which study strategies are described as being most useful to students who complete a three week Study Skills and Self-Regulation Course (Treatment one)?

Discussion of Instrumentation

As noted in Chapter Three, the participants in this study completed one of two questionnaires, either the Acquisition and Use of Study Skills and Learning Strategies (AUSSLS) (Appendix A) or the Academic Counseling Strategies (ACS) (Appendix B). Ten items were included in the AUSSLS. On five of these 10 items, participants were asked to check

one or more options that applied to them, and the remaining five items included open-response questions in which students were asked to provide their thoughts and feedback about a statement.

In response to the first question on the questionnaire, the nine participating students were asked to identify the specific ways that they studied before they participated in the study skills intervention. The participants were first asked to check a box indicating the frequency with which they used study skills from the following responses: rarely, most of the time, sometimes or could not think of any. They were also asked which study skills they used on a regular basis before they participated in the intervention.

A wide variety of responses were elicited to this question, ranging from no study strategies at all to the use of study strategies most of the time. Two students indicated they could not think of any study skills used, two other students said they used the skills rarely, one student said he used them sometimes, and the remaining four responded that they used study skills most of the time.

After they responded to how often they used study skills, the students were also asked to identify their primary mode or the strategies used to study. Slightly less than half, four of the nine respondents, listed some form of re-reading plan as their primary mode of studying, and their re-reading strategies were applied either to their notes or their textbook. Two students listed active engagement strategies, such as retyping their notes and creating note cards; for example, Paul explained, " I have discovered that re-typing my notes for one of my classes has been very helpful." Another student, Savannah, noted that self-regulation and time management techniques were useful to her when studying; " It is easier for me to break large projects/homework assignments into smaller pieces and space them out over a longer period of time. This prevents me from becoming overwhelmed and stressed out."

Two students indicated that they simply did not know how to study, or gave a cursory or vague description of what they did to study for class; Jamie said she did a "last minute overview," but she did not include a specific strategy or set of strategies that she used to retain information. John appeared to be quite honest in his response, suggesting that, "I don't really know how to effectively study since I never had to before college. I used to look at/do things and automatically know them." In summarizing responses to this question, a diversity of responses related to the use of specific study strategies was found, ranging from active engagement strategies such as retyping notes, to students who could not identify any study strategies used at all.

After three weeks of participating in the study skills class for two hours each week, the post intervention survey results for the same question were more positive, showing similar trends as compared to the more disparate findings on the pre-survey results. When asked whether students had developed any specific ways of studying, eight of the nine participating students agreed they practiced using study methods most of the time, while only one student said he used study strategies sometimes. This finding documents a difference from the pre-intervention survey results, in which the data were distributed across the four various response options. This suggests that students in the learning skills course acknowledged the use of study strategies on a more regular basis after they completed the course. Students who completed the post survey also explained that they used a broader variety of strategies, including active engagement with the content they were studying. Three students indicated that they used note cards or some form of self-testing, while four students reported rewriting their notes as a preferred study method. Five students said that they used two or more strategies. Edward, for example, reported that he used re-reading and re-writing strategies, Jimmy reported that outlining and repetition were the

strategies he used most often, while Paul employed the use of self-testing, re-typing notes, and Savannah relied on note cards online, rewriting, and concept mapping. The post-intervention responses for this question suggest two findings. Students used more and differing study strategies after the intervention than before, and second, more of the students incorporated study strategies that involve more active engagement with the content after they participated in the study skills intervention.

The second question on the *Acquisition and Use of Study Skills and Learning Strategies* survey asked participants to indicate (by checking a box) why they chose to use study strategies when doing their academic work. In Table 4.3 below, the frequency of responses to each statement is summarized. The response numbers were relatively similar from the pre-survey to the post-survey. Nine students (100% of the learning skills class) reported on the post survey that they wanted to use learning strategies to learn more efficiently, compared to six participants (66.6%) who checked this at the pre-survey stage of the study.

Table 4.3 *Frequency of responses to reasons why participants use study strategies*

Question	Pre	Post
To learn for meaning, not just to pass exams	1	2
To learn material more efficiently	6	9
To compensate for my learning difficulties	2	3
To get better grades	7	8
To organize material to help me better prepare for tests	5	6
To learn difficult content in some courses	6	7

Students were asked an additional survey question relating to the reasons they do not use study strategies. In Table 4.4, the frequency of responses to each statement is summarized and as noted, five students on the pre survey reported that they had never learned study strategies but none of the students reported this on the post survey. Only one student on the post survey indicated she could succeed academically without using study strategies.

Table 4.4 *Frequency of responses to why students do not use study strategies*

Question	Pre	Post
I can succeed academically without them	0	1
It takes too much work to learn them	0	0
I never learned them	5	0
I don't have time to use them	0	1
Using them will not make a difference	1	0

Another survey question on the pre-survey probed whether students believed that they would continue using study strategies introduced in the course that they were about to begin as part of their normal academic routine. All of the students who responded to this question said they believed that they would continue using the strategies after the course, but three of them added the caveat that they would continue only if the strategies proved to be useful. Students said that they would continue using these because the strategies help with retention of information (John), and because they "helped me learn more about myself and to overcome learning issues / continue to be more organized, be part of more programs on campus" (Nate), and because "study skills and organization skills help with time management and completion of work" (Jay).

On the post-intervention survey, all nine students agreed that they would continue using the study strategies learned in the class. Slightly less than half, or four of the nine students, described the specific strategies they would continue using. Nate explained,

> "Of course I've learned much more about myself in an academic sense and that will help me overcome my learning disabilities. By being better organized I hope to obtain the grades that I need to be successful. In the following semester I intend to be a part of the University Connects Program to have a facilitator oversee my academic work and advise me on what would hopefully work better for me. Also I want to integrate more professors' office hours into my schedule so that I remain ahead of my work with the class."

Since all students described the presence of a specific plan for use of strategies or their intent to use strategies, it appears that they had actually tested the strategies and were comfortable using them. Therefore, it appears that an increased likelihood exists that the student will continue to use these strategies in the future. The remaining five students agreed that they would continue to use study strategies, but did not indicate which specific strategy they would use, suggesting that these students did not take the time to elaborate on their plans or that they may have been more comfortable discussing the global use of strategies. Jamie, for example, said that the use of "study skills have improved organization, time management, and increased motivation", while Jay explained that "study skills and organization skills help with time management and completion of work," and John thought that the "strategies help with retention of information".

In another section of the questionnaire, students were asked how many hours each week they spent studying before and after the intervention (respectively). In Table 4.5, these self-report data are summarized, and the frequency of students who reported studying the least amount was four previous to the intervention and none after. The count of those reporting studying between 20 to 24 or 25-29 hours prior to the intervention was zero, while more than half (five of nine) of the participants reported studying between 20 and 29 hours after the

intervention. The mean hours of study calculated using a procedure for calculating the mean of interval data before the intervention was eight and after the intervention was 19.4 (See Appendix C for a report on how the mean of interval data was tabulated). In summary, all nine participants reported that the hours each week they studied increased after the intervention.

Table 4.5 *Frequency of hours spent studying*

Student Name	Hours Pre Intervention	Hours Post Intervention
John	1 to 4	10 to 15
Nate	5 to 9	16 to 19
Jay	10 to 15	20 to 24
Tamara	1 to 4	10 to 15
Jamie	1 to 4	20 to 24
Edward	1 to 4	5 to 9
Jimmy	10 to 15	25 to 29
Paul	10 to 15	25 to 29
Savannah	16 to 19	25 to 29

Students were also asked whether they believed that the Study Skills/Learning Strategies was beneficial and all students agreed that it was, with six of the students rating it as "Very Beneficial" and three rating it as "Beneficial" as indicated in Table 4.6 below.

Table 4.6 *Usefulness of study skills*

Student Name	Use of study skills post intervention
John	Very Beneficial
Nate	Very Beneficial
Jay	Beneficial
Tamara	Beneficial
Jamie	Very Beneficial
Edward	Beneficial
Jimmy	Very Beneficial
Paul	Very Beneficial
Savannah	Very Beneficial

Students were also asked, in their opinion, which study strategies were the most useful during the study skills course. Five students indicated that the use of note cards and self-testing was most useful, suggesting that this information is quite different from the data gathered at the beginning of intervention. At that stage, only one student reported using note cards for studying. This increase in the use of this skill may have had to do with how the information was presented in the course or the improvements that students believed followed when they used this strategy. As is clear from Table 4.7 below, five students cited two strategies each, two students cited one strategy each, and two students cited three strategies each. Five students reported that time management strategies were useful to them. This finding is particularly interesting as Tinto's research (1993) suggested that many students arrive in college underprepared academically. Six students reported that organization strategies were useful in their study habits, while two students reported that rewriting notes was a useful study strategy.

Table 4.7 *Most useful study strategies used by students*

Student Name	Most useful strategy, or strategies
John	Note cards, time management
Nate	Note cards, organization
Jay	Time management, organization
Tamara	Organization, rewriting notes
Jaime	Time management, positive affect, and organization
Edward	Organization
Jimmy	Flash cards, time management
Paul	Retyping notes, self-testing, time management
Savannah	Note cards

Students were also asked to describe how the use of study skills helped them to succeed in their academic work, and their responses are reported in Table 4.8. Four students said that the use of study strategies improved their overall retention of the material. John explained, "The study skills allow me to retain information for learning better and spend more time on

assignments." Three other students reported that the use of time management strategies helped them to succeed in their academic work. Tamara summarized, "By seeing that I have a couple of hours free I planned those hours and what I was going to do." Two students said that using study strategies increased their understanding of the content; as Edward noted, "rewriting helps me understand the material better than I would if I just re-read it." One student indicated that organizational strategies helped him succeed academically.

Table 4.8 *How the use of study skills improved student academic perception*

Student Name	How the use of study skills helped student succeed in academic work
John	Improved retention of information
Nate	Increased awareness of material in classes
Jay	More organization related to academic tasks
Tamara	Time management has resulted in more time studying
Jamie	Improved retention of content
Edward	Improved comprehension of content
Jimmy	Improved time management and planning for exams
Paul	Helps take action, accomplish tasks, content retention
Savannah	Content retention

Students were asked to describe their most useful test preparation strategies to prepare for studying for a challenging exam. In the pre survey, only five of the nine students responded to this question, and only two of them listed specific strategies, such as note cards and re-typing notes. The post survey descriptions as reported in Table 4.9, show an increase of the number of students who reported the use of note cards. Jamie stated, "For challenging tests, I make note cards and go over them multiple times a day for a few days in a row in preparation for my tests. This helps more than anything in memory retrieval." Two other students indicated that studying in advance was a critical part of their success on exams. Jay stated, "Instead of cramming so much of material on the night before the test, I use my daily schedule to prepare for the test little by little and reviewing it on the night before the test." Three students reported that re-writing

their notes was the most useful strategy used when preparing for tests. Tamara stated, "The re-writing notes was the most useful because the more I rewrote the more the material sunk in and I understood what I was studying." One student reported that re-reading material was helpful in preparing for exams, one student reported that organizing content was helpful in preparing for exams, and one student reported the use of concept mapping as a helpful strategy.

Table 4.9 *Strategies most useful to students when preparing for an exam*

Student	Strategy most useful to prepare for an exam
John	Note Cards
Nate	Note cards – made in advance / going to office hours
Jay	study in advance
Tamara	Re-writing notes
Jaime	Note cards
Edward	Re-read / re-write notes
Jimmy	Note cards
Paul	Organization, retype notes, flash cards
Savannah	Flash cards, mapping

Case Studies of Two Students in Learning Skills Class

As noted in Chapter Three, case studies of students participating in both intervention groups are presented to enhance the quantitative studies. These descriptions of study participants are presented to add depth to the findings of this study.

Case Study of Paul: Paul is a white male entering his third year at State U and is currently majoring in economics. Paul is a young man with a pale complexion and bright blue eyes who is usually dressed in a collard polo shirt tucked into blue jeans or khaki pants. Paul has a warm and welcoming affect when talking one-on-one, but reports that he is slightly apprehensive about talking in front of groups or in classes. Paul grew up in an affluent suburb, and frequently travels to his family home on the weekends. Paul lives on campus at State U, and has a car so that he can commute to his part-time off campus job.

Paul was understandably nervous about revealing his academic struggles to the students participating in the Learning Skills Class (LSC). Rather than divulge personal information, Paul tended to nod when he agreed with other students' statements, such as, "I did not know how hard the classes were going to be," and "I was not putting in enough time outside of class." After becoming more familiar with the instructor, Paul opened up in discussions about his perceptions related to the causes that were contributing to his academic struggles. Paul explained that during high school he was an excellent student, and that all he had to do to remember content was to re-read the information. Once he matriculated at State U, re-reading simply did not work any more for him and Paul began to realize that he had a much higher volume of work and increasingly complex content that he had not experienced in high school. Paul's grades suffered, and eventually he realized that he needed to change his study techniques. On the recommendation of one of his professors, Paul began re-typing all of his notes on a weekly basis. Paul believed that this strategy was positively affecting his academics, and reported that he felt more comfortable and confident about his course content for his exams after he spent the time re-typing content and information from the class.

Paul was particularly interested in trying to implement two strategies introduced in the Study Skills class; the hourly planner and the use of note cards to prepare for exams. The hourly planner time management strategy was introduced during the first week of the three week course. Students were first introduced to self-regulation theory and then they were asked to complete an hourly calendar for the week while taking the class. Paul first documented his mandatory commitments on his calendar, such as classes or his job, then added other obligations that were flexible, such as dinner with friends. After completing the calendar for the week, Paul identified different three hour blocks of time in which he could do school assignments. Unlike other

students who tried to avoid this type of scheduling, Paul welcomed it, and even applied this strategy at a higher level. For each hour of work time that Paul scheduled, he added in the assignment he would do in his paper calendar, and then also added the location in which he was going to work. For example, he would record that he would read chapter three for Biology in the 3rd floor of library. Paul said he would try this approach for a week and discuss how it worked at the following class.

During the follow-up class, Paul was really positive about the use of the hourly-planner. The instructor asked him to share his experience with the rest of the class, which he did, explaining that when he usually started to do his work he had to take 20 or more minutes to get prepared to even begin his work, such as, figuring out what assignment to do, seeing how much time he had before his next class, deciding where to work etc. Paul compared this process to a meal, in which this would be an appetizer, and completing the assignment was the entrée. Paul explained that using the hourly planner enabled him to skip the appetizer and spend more time on the entrée or the assignment because he knew what he had to do, where he was going to do it, and how long he had to spend on the assignment. He reported his belief that skipping the 'appetizer' made him more efficient because he was gaining extra time that would enable him to accomplish more work. Paul was eager to continue using this strategy, and asked his class instructor if he could have any extra copies of the paper hourly planner sheets for his use.

The second strategy Paul implemented was the use of note cards to prepare for exams. Paul reported that he had never made note cards before he took the LSC class as during high school he simply re-read his notes and that minimal study habit enabled him to do well. He explained that during college he did not know what content to put on note cards. Paul practiced making note cards in the LSC multiple times and discussed how to effectively use them (creating

an information retrieval schedule). As one of the assignments he was asked to complete for the LSC, Paul created 10-20 note cards on his own time that could be used to prepare for an upcoming exam.

In the follow up class Paul indicated the process of making the note cards was extremely helpful, as was the strategy of consistently reviewing them (he decided to have an alarm go off in his phone every four hours reminding him to review the note cards). The instructor encouraged Paul to discuss what part of the process of making and reviewing the note cards proved to be most beneficial to him. Paul explained that making the note cards forced him to take large concepts and break them down into smaller more manageable ideas, which he would then write on the note card. He also stated that reviewing the material over and over again on a schedule "just made him remember" the content. Paul explained to members of the class that he had never studied like this before, admitting that usually he would sit down for an hour and that would be the end of his studying. Using the information retrieval schedule he was enabling himself to consistently review the content and he was very proud and satisfied that it proved useful for him.

Paul ended the fall semester in which he attended the LSC with a term GPA of 2.792, which was higher than his previous semester GPA 1.89. Paul's term GPA was high enough for him to achieve good academic standing and he was no longer subject to probation or dismissal for academic reasons.

Case study of Jamie: Jamie is a white female finishing her third year at State U, majoring in liberal arts, with a concentration in human development and family studies. Jamie has a vibrant, outgoing personality and smiles all the time. She has long dark brown straight hair and brown eyes. Jamie is from a small town, and she commutes to and from school each day to reduce the cost of college. Jamie is very close to her parents and they are in frequent contact

throughout the day using either emails or text messages. Jamie hints that her parents are overprotective of her; something that became apparent during one of the LSC's when the weather became inclement. Her parents called her and insisted that she return home immediately. Jamie has a part time job near her hometown and reports that she works many hours on the weekends.

Jamie was quite talkative in all of the LSC classes and was very comfortable sharing her academic experiences with other students in the class. She was often the person who volunteered an answer when no one else wanted to talk and she was quite candid about the reasons for her academic difficulties at State U. She believed that her classes were significantly harder than she had expected them to be, and reported that she did not study enough in any of them. Jamie explained that as the content grew increasingly difficult, she withdrew, studied less, disengaged in class, and extended little to no effort into assignments. In retrospect, Jamie thought of this as a way of protecting herself, for once she became confused in class she believed there was very little chance for academic success. She also decided that it would be easier for her to not try at all and to receive a bad grade rather than to try and then subsequently fail. Jamie explained that what she termed 'withdrawing' was the result of not knowing how to study the complex information she encountered in her classes. She explained that her high school classes were very easy and she never had to read the textbooks or study for more than 45 minutes for an exam. The ease of those classes led Jamie to develop a series of poor study habits, such as reading with the television on in the background, and waiting until the last minute to begin studying or to begin an assignment. Jamie was eager and willing to learn new strategies to assist her in academics, which she described as "adding more tools to her learning toolbox".

Jamie was very interested in using three strategies discussed in the LSC: self-regulation, re-writing notes, and making note cards. Self-regulation theory was introduced during the first day of the LSC, and one aspect introduced as part of the class was the self-regulation of affect. Many of the participants in the LSC did not understand why this was important or relevant to their academic experience. Jamie, however, carefully considered self-regulation of affect and self-regulation theory in general and began integrating some simple strategies into her daily academic routine. As mentioned earlier, Jamie initially displayed a defeatist attitude toward challenging or difficult content in her classes. After learning about self-regulation of affect Jamie started praising herself for small successes. For example in her sign language class, she would praise herself for learning two new signs, rather than mentally degrading herself for not memorizing the entire paragraph. Jamie said this cognitive shift was difficult to make, and it remained a work in progress during the weeks of the LSC but she explained that she was beginning to learn not to compare herself with other students. She began to focus on feeling confident that she had to work to the best of her ability and remaining confident about her work and effort. Jamie explained that this new approach and attitude toward academics helped her tackle more difficult content rather than to withdraw when she encountered a challenge. She told the class that she wanted to maintain 'the positive vibes' that she had developed using self-regulation of affect because she had become more confident in her ability to succeed in the future with a more positive outlook and attitude.

The second strategy Jamie implemented was re-writing her notes, explaining that she usually carried her laptop computer with her to class and that she takes notes in a Microsoft word document. Jamie explained that when she is focused, the notes work well for her, but she can often get off task easily because she frequently accesses the Internet and checks her email and

Facebook during class. Jamie explained that using her laptop in class was enjoyable because she is faster at typing her notes than writing them. She also will download her professors' power-points and take notes while following along with these powerpoints during class. A strategy introduced in the LSC was re-writing notes as a way of better organizing and reviewing the information. The students were asked to try this for one of their classes and report back on how the strategy worked for them and whether they believed it was effective.

Jamie explained that using this strategy helped her remember more details from her class than she ordinarily would have. She found this interesting because she had all the details recorded in the notes she took from class, but admitted that she would usually not examine those notes unless an exam was scheduled. She also explained that re-writing her notes allowed her to organize them in a manner that made sense to her, which helped her to remember the content more easily. The instructor asked Jamie if she believed that this strategy was sustainable for her. Jamie was careful about how she responded as she said that it had absolutely helped her but that re-writing notes from every class every night involved a great deal of time, and she was unsure she could continue doing this. The instructor challenged Jamie to make modifications to the strategy to enable it to be sustainable for her academic future. At the next class Jamie approached the instructor and told her that she had figured out a "really great" system that involved making outlines of the most important information for each class every week. Jamie believed that this system incorporated the re-writing aspect she had learned in class, which she found very helpful, yet it also was less of a time commitment.

The final strategy Jamie reported implementing was the use of note cards. Before learning how to effectively make and use note cards Jamie reported that her primary mode of preparing for tests was re-reading the material. Jamie explained that during high school, she had

regularly used re-reading the material as a test preparation method. Using this approach, she had received B's on her important tests and was happy with those grades. Once in college, Jamie never thought of adding or changing the strategies she used, rather she worked on rereading for longer periods of time and explained that she believed that this was the best way to improve her exam grades. Once she enrolled in the LSC, Jamie learned how to break up or to chunk content in order to put important material on a note card. She practiced this multiple times in class and was asked to make 10-20 note cards on her own time and report back to the class on how the exercise went.

Jamie explained to the class at a follow-up meeting that making note cards had a similar positive effect as the re-writing strategy. By creating note cards, Jamie believed that she was making herself re-conceptualize content, which deepened her understanding of it. In addition, reviewing the note cards multiple times each day aloud aided with her memorization of the material. Jamie believed that this was the most useful test preparation tool she had learned, and reported that she planned to use it to prepare for all of her exams.

Jamie ended the fall semester in which she attended the LSC with a term GPA of 2.443, an increase from her previous semester, which was a 1.42. Her cumulative GPA after the intervention was 2.327. Jamie's term GPA placed her in good academic standing and she was no longer subject to probation or dismissal for academic reasons from State U.

Research Question Five

Which academic counseling strategies are described as being most useful to students who complete a three week program in academic counseling (Treatment two)?

Discussion of Instrumentation

The 10 students who completed the *Academic Counseling Strategies* survey were asked to identify which academic counseling strategies were most useful to them in improving their academic performance. In Table 4.10, student responses from both the pre and post surveys are summarized. Of the nine students who responded to the pre-survey, three reported time management as a useful academic counseling strategy on the pre-survey, and three students also reported re-reading as useful. Individual students reported the following strategies as useful academic counseling strategies: motivation, individual help, organization, memorization, re-writing, and outlining in the pre survey.

The results of the post survey, however, vary considerably, as seven students reported the use of time management strategies as useful academic counseling strategies, and four students also reported organizational strategies as useful academic counseling strategies. Individual student responses about useful academic counseling strategies continued to be spread across a variety of each of the following three: individual help, flash cards, and taking notes.

Table 4.10 *Most useful academic counseling strategy*

Student	Pre	Post
Mitch	Time Management	Time Management
Marty	Time Management	Time Management
Ralph	Re-reading, Individualized help	Individualized help (communication, weekly sessions)
Shawn	Motivation	Organization
Sandy	Time Management, Organization	Time Management, Organization
Ivan	Memorization	Time Management
Jack	Rereading Notes	Time Management
Henry	Re-reading, re-writing notes	Time Management
Kourtney	Outlining	Time Management, Flash Cards, Organization
Ray	N/A	Taking Notes, Organization

The second question on the *Academic Counseling Survey* students related to why they chose to use study strategies to improve their academic work, and were asked to check the statements that applied to them. In Table 4.11, the results from the pre and post surveys are summarized. As is evident from these data, most students did not change their beliefs about which study strategies they used before and after the intervention. For example, seven students on the pre survey and six students on the post intervention survey indicated that they used study strategies to learn for meaning, not just to pass exams. In a similar finding, the majority of students reported they used study strategies to learn more efficiently on both the pre and post survey. Similar trends emerged on the items related to using study strategies to compensate for learning difficulties and to improve grades and prepare for tests. An increase from five to seven students reported using study strategies to learn difficult content in some of their courses.

Table 4.11 *Response frequencies to why students use study strategies*

Question	Pre	Post
To learn for meaning, not just to pass exams	7	6
To learn material more efficiently	9	10
To compensate for my learning difficulties	5	6
To get better grades	9	9
To organize material to help me better prepare for tests	9	9
To learn difficult content in some courses	5	7

Students were also asked to report reasons that they did not use study strategies from a list of statements, and the results from the pre and post survey are presented in Table 4.12. Few changes were noted, with the exception of two items. On the pre survey, two students reported that they had never learned the study strategies, while not one student made this claim on the

post survey. A similar pattern emerged on the item related to participants' beliefs that using the strategies would not make a difference, as two students checked this on the pre survey while, no students reported retaining this belief on this item on the post survey.

Table 4.12 *Reported reasons for not using study strategies*

Question	Pre	Post
I can succeed academically without them	1	1
It takes too much work to learn them	1	0
I have never learned them	2	0
Using them will not make a difference	0	0
I don't have the time to use them	2	0

Students were also asked to report if the process of working with an academic counselor was useful to them. All 10 students reported in the post survey that working with an academic counselor was helpful to them and their reasons varied as summarized in Table 4.13. Half of the students reported that having individual contact with an academic counselor on a regular basis was useful to them. Sandy explained that, "it was useful having someone check up on me and my progress on a regular basis, gives me more of an incentive to get my work done." Mitch stated, "Weekly check-ins keep me focused." Two students reported that academic counseling taught them new useful skills. As Shawn explained, these meetings "provided techniques and motivation to apply those techniques." Ivan stated, "having a counselor helped greatly because new study strategies and skills were made known to me that I didn't previously know about." Jack reported that time management strategies were the most useful to him, stating, that they "helped to see better ways of time usage as well as a helpful reminder to do work." Ray wrote that organization strategies learned in academic counseling were most useful

to him, as "I learned valuable planning and organization skills, many of which I would not have started using without an academic counselor."

Table 4.13 *Reasons for the effectiveness of academic counseling*

Student Name	Most useful part of working with academic counselor
Mitch	Individual contact
Marty	Individual contact
Ralph	Provided motivation
Shawn	Provided motivation, learned new skills
Sandy	Individual contact
Ivan	Learned new skills
Jack	Time management skills
Henry	Individual contact
Kourtney	Individual Contact
Ray	Organization strategies

Students were asked to report whether academic counseling motivated them to try a strategy that was discussed in counseling and to report on which strategy or strategies worked best for them, as summarized in Table 4.14. The results from the post-survey question show that nine of the 10 students indicated that this participation in academic counseling motivated them to try using a study strategy. Ralph, the student who reported that counseling did not motivate him to try a new strategy explained that the experience "motivated me to cement my own study skills," which still implies that he was actively contemplating which study skills worked best for him. As noted in the table, the majority of students, seven of nine respondents, listed a form of time management strategies as the skill they tried using, while three reported using organizational strategies, and two, the use of outlining. Individual students reported using goal setting strategy and note cards.

Table 4.14 *Students' motivation to try new academic strategies*

Student Name	Motivated to try new strategies	Strategy or Strategies tried
Mitch	Yes	Time management
Marty	Yes	Setting goals
Ralph	No	Motivated me to cement my own study habits
Shawn	Yes	Outlining, time management
Sandy	Yes	Time management
Ivan	Yes	Outlining
Henry	Yes	Time management, organization
Kourtney	Yes	Note cards, time management
Ray	Yes	Organization, time management

Students were also asked to report if they believed that the individualized counseling they received helped them develop new strategies for studying, and 70% of the students replied positively, as summarized in Table 4.15. The three students who reported that individual counseling did not help them create new study strategies explained that they had known strategies before but had not used them to study. Marty elaborated that he had not used ". . . really new strategies - just old ones I lost touch with." The remaining seven students indicated that individual counseling was helpful in developing new study strategies and were able to list specific strategies they tried, including time management, re-reading and increased motivation. Kourtney stated, "Yes, rereading notes nightly and making schedules are things I always needed to do but the counseling gave me motivation to do it," and Ray explained, "Yes there were strategies that I began using which I have not used before. I knew of these strategies but didn't think they would be useful until I tried using them with the motivation of an academic counselor."

Table 4.15 *Whether students felt that*

academic counseling assisted them in developing new academic strategies

Student Name	Counseling help to develop new strategies
Mitch	Yes
Marty	No
Ralph	No
Shawn	No
Sandy	Yes
Ivan	Yes
Jack	Yes
Henry	Yes
Kourtney	Yes
Ray	Yes

Students were also asked to report about whether they would continue using specific study strategies as part of their academic routine and these data are summarized in Table 4.16. All of the students reported that they would continue using the strategies and they cited a variety of reasons. For example, two students reported that use of the strategies helped them learn the material more efficiently. Henry explained, "Yes, because I feel more confident with course material and I am also more efficient." Shawn, in a similar comment to Henry, reported that the strategies helped him retain content, but added that using them improved his attitude about learning, stating, "yes because they work and bring optimism towards learning the material." Two students reported that the strategies were effective and that they would help them achieve success in their academic performance. Ralph stated, "Yes I will continue to use the strategies because it will benefit me not only in school, but in life also." Sandy explained, "I will continue because now I know how effective and beneficial it is for me to do so." Several specific strategies were identified as useful, including, time management (three students), organization,

(two students), and re-writing (one student). Jack explained that he would continue using these because they help with ". . . overall organization and management of time," and Mitch stated "yes, I will continue to schedule my work as I have been learning to do, and stay on top of assignments by doing them in chunks instead of all at once."

Table 4.16 *Continued use of study strategies*

Student Name	Continue to use strategies	Why
Mitch	Yes	Time management is helping
Marty	Yes	To better life
Ralph	Yes	Strategies will improve school performance
Shawn	Yes	Help with learning the content, and bring optimism toward learning
Sandy	Yes	Strategies are effective
Ivan	Yes	Strategies provide alternate study methods
Jack	Yes	Time management and organization are helping
Henry	Yes	Helps with learning content
Kourtney	Yes	Time management is helping
Ray	Yes	Re-writing, organization are helping

Students were asked to report the number of hours spent studying each week before and after the intervention, and these data are shown in Table 4.17. The mean hours of study calculated using a procedure for calculating the mean of interval data before the intervention was 7.9 and after the intervention was 15.2 (See Appendix C for a report on how the mean of interval data was tabulated.) In summary, nine out of the ten participants reported that the hours per week they studied increased after the intervention; one participant reported studying the same amount of hours before and after the intervention.

Table 4.17 *Reported hours spent studying*

Student	Hours pre intervention	Hours post intervention
Mitch	1 to 4	20 to 24

Marty	1 to 4	5 to 9
Ralph	10 to 15	16 to 19
Shawn	1 to 4	10 to 15
Sandy	10 to 15	25 to 29
Ivan	1 to 4	5 to 9
Jack	5 to 9	10 to 15
Henry	20 to 24	20 to 24
Kourtney	10 to 15	16 to 19
Ray	1 to 4	5 to 9

Students were asked to report whether the use of counseling strategies in their current work was, on the following scale: not beneficial, somewhat beneficial, beneficial, very beneficial, or not sure. In Table 4.18, the data from the post-intervention survey item is summarized and seven out of the 10 students indicated that counseling strategies were beneficial, while the remaining three students reported the strategies were very beneficial.

Table 4.18 *Usefulness of academic counseling*

Student	Point of view post-intervention
Mitch	Beneficial
Marty	Beneficial
Ralph	Very beneficial
Shawn	Beneficial
Sandy	Very beneficial
Ivan	Beneficial
Jack	Beneficial
Henry	Very Beneficial
Kourtney	Beneficial
Ray	Beneficial

On the last item, students were asked to describe the most useful study strategies for them when preparing for a test, and their responses are summarized in Table 4.19. The most frequent response, from six of the 10 students, involved the use of time management strategies when

preparing for a test. Two students reported using organizational strategies, while another two students reported re-writing notes as their most useful strategy.

Table 4.19 *Study strategy to use when preparing for an exam*

Student	Post-survey response
Mitch	Re-read
Marty	Time management, setting goals
Ralph	Individual meetings
Shawn	Time management
Sandy	Re-writing notes
Ivan	Time management
Jack	Time management, organization
Henry	Time management
Kourtney	Time management
Ray	Organization, re-writing notes

Case Studies of Two Academic Counseling Students

As in the reporting of results on the previous intervention, two case studies are provided to add depth to the findings of this important research question.

Case study of Jack: Jack is a white, male student who should be a junior at State U, as he had attended classes there for three years but he had fallen behind due to low grades. Jack has blond hair, blue eyes, and a soft-spoken pleasant demeanor, which makes him easy to engage in conversation. He has 90 completed credits and is majoring in Environmental Science. Jack grew up in a small town, where many of his friends still live and work, but indicated during conversations that most of his friends from high school did not attend college. Jack currently lives in an off campus house with his step-brother, as he explained that their parents are supporting both of them, and this living situation alleviated some financial stress for his family.

Jack was very forthcoming about his perceptions that he needed to improve his academic performance and reported that he was open to any kind of help that was offered, which made the

process of working with a counselor efficient. Jack began the counseling sessions by describing some of the reasons he was on the list for academic dismissal, explaining that he felt 'lost' at this large state university. As he is from a small town and attended a small high school, he initially had believed he knew how to succeed both academically and socially. Once he began his classes at State U, he explained that he had become overwhelmed by the sheer size of the student body and also by the level and amount of academic work. Jack said that he did not know or really understand where to find academic help on campus and was embarrassed to ask for assistance from other students. Feeling lost on campus also resulted, he explained, in having him spend more time at home with his friends and family, with whom he felt comfortable and safe. While at home he began working on various hourly jobs on the weekends, which occasionally spilled over to weeknights in his effort to earn extra money. Jack reflected that, in retrospect, working too many hours had distracted him from his academic work, yet he continued to view this decision as a way to stay busy, but not be on a campus where he did not feel like he belonged. An additional source of distraction for Jack was the prolonged illness his stepbrother experienced the previous academic year. Jack explained that he was incredibly close to his stepbrother and was constantly at the hospital with him when he was ill, particularly in the previous spring semester in which he earned his lowest GPA. Jack admitted that he hardly attended class during this spring semester as he wanted to be at the hospital with his stepbrother.

Jack appears to be a self-actualized and self-reflective young man. He is very passionate about his major, environmental science, but admitted to not being invested in most other classes, such as English and History. He explained that he has never been particularly interested in these subjects and therefore expended too little effort into those courses. Jack said that after the low grades he earned during the spring semester, he understood that he needed to make some

changes, and he had started to slowly incorporate some new behaviors into his academic routine. He explained that he had begun taking notes in most of his classes, and went to a professor's office hours before an exam. When asked if there were any specific areas Jack wanted to focus on, he explained that he needed to work on both organization and test preparation. With this as a starting point, Jack and the counselor began working on organization and time management strategies.

Jack clarified his belief that he had never developed any specific or formal organizational strategies or skills during his elementary or secondary experiences. One theme that was repeatedly discussed in conversations with Jack was his habit of forgetting assignments, or failing to remember when his assignments were due. The first organizational strategy that was introduced to Jack was the use of a planner to record assignments and readings due each week. The counselor suggested that Jack implement this strategy in two different manners. First, Jack was taught to use a paper planner, on which he would record all his responsibilities for each class for one week. The counselor also suggested the simple strategy of crossing off assignments when they were completed, and adding a due date for each assignment. The second manner in which this strategy was introduced was through the use of Jack's smart-phone, on which Jack was taught to utilize the notepad application. He created a page using this application on which he listed all the assignments for each class every week. The counselor asked Jack to try this strategy for a week and to see if it helped him to feel as if his work was more organized, and to help him become more aware of when his assignments were due. Jack was also asked to notice which medium (paper or technological) he used more frequently.

After trying the strategy for one week Jack said he noticed several changes. He noticed that when he sat down to do his homework he always had a list of tasks that he had to

accomplish. Before recording his assignments on paper and his cell phone, he would try to remember everything he had to do at night using his memory and he found that when he sat down to do work he would try to remember his assignments, but he usually forgot them and thus assumed he had no work to do. Jack reported that he found himself using his phone most often to check on his assignments, but did not want to eliminate using the paper planner as a back-up method in case he lost his phone or the battery died. Jack continued to implement this strategy for the entire three-week intervention and reported that he planned to continue using the electronic method after the intervention. During his last session Jack mentioned that he never realized how much stress he was experiencing before his implementation of these relatively simple organizational strategies. The stress emanated from trying to remember if he had homework, then worrying whether he may have forgotten something. Jack said that life with high stress had been 'normal' to him, but that after he discovered how to record his assignments, he found that he could dedicate more energy and thought to work assignments, as he was not using that energy to try to remember which assignments he needed to complete.

The second organization strategy that the counselor implemented with Jack was the use of an hourly calendar to make him more aware of his free time, to enable him to better plan when he would do his work. Jack was initially resistant to the idea of using an hourly planner, saying it was much too structured for him. The counselor encouraged him to try to use this strategy for four days to see if it helped him manage his time. Jack and the counselor completed a paper-hourly planner together, first recording 'concrete' or non-flexible appointments such as classes in one color. Next they added the activities Jack liked to do each week, such as lunch with friends on a particular day in a different color. Finally they reviewed the schedule for each day and identified blocks of at least two hours and labeled those as study blocks. Jack and his counselor

reviewed each study block and noted which subject Jack would study and also listed a few additional tasks he needed to accomplish in that time period. Jack was a bit apprehensive about using the hourly-planner but agreed to try it for a week.

When Jack returned the following week with the hourly planner he reported that it was an "eye-opening exercise", explaining that he had never realized how much time he wasted before he started recording what he had to accomplish everyday. He explained that using the weekly planner enabled him to realize how much time he spent watching TV and playing video games rather than studying. He began to understand that by using the planner he could schedule his free time, but also ensure sure that all of his work was completed in a timely manner as well. Jack was unsure if he wanted to continue filling out an hourly planner each day, but he particularly liked the idea of knowing his schedule well. The counselor suggested that Jack use the calendar on his smart-phone (as he liked incorporating technology for the previous intervention). Jack tried using the calendar and found that he liked using it for 'concrete' appointments because a reminder would pop up an hour before he needed to be somewhere, but he did not find it to be particularly useful for planning study time. By the time the intervention ended, Jack had decided on the implementation of his own system that worked just for him; he would review his calendar every morning and decide on a block of time that could be devoted to studying and then record that in the note application on his smart-phone with the rest of his assignments.

The final area Jack addressed with the counselor related to improving his test preparation methods. Prior to working with his academic counselor, Jack studied by simply rereading his notes and flipping through the text-books and re-re-reading the bolded words. Jack said this method had served him well in high school and so he simply continued using it in college. The academic counselor asked Jack to describe other study methods he used in the past, and he said

he did not know any other ways to study. The counselor then discussed various modes of learning (visual, auditory, and kinesthetic), explained each to Jack, and asked if he thought that one of these seemed like a way that he could remember content. Jack considered his learning styles and reported that active engagement with the content was one strategy that could work for him, as he identified most with kinesthetic learners. The counselor and Jack decided to try to create an outline to prepare for his upcoming final exams. They practiced outlining together, and then Jack was asked to continue working on this task on his own time. Jack completed an outline for one of his exams and brought it to the next counseling session. He said it was the most studying he had ever done, and he felt proud about having achieved this milestone. Jack also acknowledged that he wanted to continue practicing outlining in his other classes to try to analyze whether the use of this specific technique would help improve his exam grades.

Jack ended the fall semester in which he participated in the academic counseling intervention with a GPA of 2.433, the highest term GPA he had achieved since the Fall 2010. The cumulative GPA he had earned at the end of the previous fall semester was a 1.88. Jack reported that he had ended the semester feeling optimistic about his future at State U, which is not something he had previously experienced.

Case study of Kourtney: Kourtney is a culturally diverse student who is entering her junior year at State U and majoring in physiology and neurobiology. She is soft-spoken, small in stature, and wears large tortoise shell glasses. Kourtney does not wear a lot of make-up or pay much attention to the style of her jet-black hair. She is very pleasant, participates in polite conversations, possesses an upbeat manner, and is quite engaging in her personal skills. Kourtney is from a shoreline town where her family continues to reside, and reports that she is close with her family, talking with her parents multiple times a day on the phone. Kourtney is

particularly close to her younger sister, who just started at State U. Kourtney and her younger sister spend a lot of time together on campus and are in constant contact via text message. Kourtney lives in a dormitory on campus with a roommate who she has lived with for her three years at State U, and she explained that her roommate is also her best friend who often "takes care of her."

Kourtney was somewhat elusive when discussing the reasons for her academic difficulties at State U. At her initial appointment with the counselor, Kourtney described all of the ways she had studied and completed her assignments, and mentioned her use of study strategies such as re-writing her notes, using outlines, managing her time, and making note cards. Kourtney's attitude and affect about the topic made it quite clear that she believed she had her current academic situation under control. When she was asked to explain some of the reasons that she was on the dismissal list, Kourtney begrudgingly said a few words but would not elaborate without further prompting from the counselor. Kourtney finally described some of the reasons that "may have contributed" to her poor academic performance, including management of her free time. When asked to describe her struggles with this, Kourtney explained that she has experienced difficulty with starting her work, preferring to socialize or spend time on Facebook.

Kourtney also described her relationship with her parents, who were extremely strict, explaining that she never had any freedom before she came to college. For example, Kourtney was not allowed to have friends over unless her parents were home and in the same room as them. She believes that this level of discipline and strictness her parents imposed upon her in high school caused her to "go a little crazy" when she first got to college, where she dedicated all of her time to socializing and almost none to academics.

Kourtney believes that she has found a better balance between socializing and academics at the current time but still struggles to consistently place academics before social activities. Kourtney mentioned that the social networking site Facebook remains a negative influence on her academic progress as she spends between four and 10 hours on Facebook each day. When describing this problem, she used the words addicted and obsessed. Kourtney asked her sister to change her Facebook password so she can no longer access her account during the week. Her sister signs her into Facebook on the weekends and then changes the password again the following Monday to help Kourtney address the addiction she faces.

In addition to time management challenges, Kourtney also mentioned her organizational issues. Kourtney opened her book bag during the first meeting to demonstrate some of the organizational problems, revealing dozens of papers that were folded and crumpled and in no particular order. The counselor asked her to take out one of her notebooks to examine Kourtney's organization of notes and found that the notebooks and notes were completely disorganized. Kourtney used one spiral bound notebook to record notes for all of her classes, but there was no indication on the top of each page about which class for which the notes had been taken. Furthermore, the notes were not logically organized, as it appeared that Kourtney wrote random pieces of information in no particular order. The final question the counselor asked related to organization and how Kourtney kept track of her assignments, and in response, Kourtney directed the counselor to examine several corners of her spiral note-book, where she had recorded a few assignments.

Kourtney reluctantly agreed to try several time management and organizational strategies with the counselor and the first strategy they implemented was the use of a paper hourly planner. Kourtney was not fond of this idea, explaining that she believed "it was too structured" for her

lifestyle. The counselor and Kourtney completed the calendar, first adding in 'concrete' obligations, such as classes and labs, and subsequently recording regularly occurring activities that were not mandatory, such as meeting a friend for coffee, or watching a TV show. Finally, they reviewed the schedule for each day and identified two to three additional hours that could be used for study time. Kourtney was surprised at how much extra time the counselor was able to find during the day, she stated that "I guess that is when I watch TV or do Facebook, I never really realized how much time it took up." The counselor asked Kourtney to try using the hourly planner for the three days between their first and second meetings of that week and Kourtney agreed, and said she would report back about how the strategy worked.

The counselor began the following meeting by asking Kourtney about how the use of the hourly planner had worked for her. Kourtney said it was "ok," but when asked to elaborate, she explained that she had gained a better understanding of how she should use her free time, but did not like having to follow the schedule "when things she would rather be doing come up". The counselor asked Kourtney for an example of this scenario and Kourtney explained that during one of her 'work' blocks in the library; several of her friends had decided to go for coffee together and she decided to go with them. The coffee run lasted for several hours, and when she returned to the library, her scheduled 'work' time was over so she decided to return to her room. The counselor asked Kourtney if she made up the lost 'work' time later that evening, which Kourtney replied that she had not done.

The counselor and Kourtney then engaged in a conversation about how to amend the hourly planner based on changes in her day-to-day schedule, yet still complete the work. The counselor explained that Kourtney could shift some of her blocks of 'work' time in the day to accommodate other activities that randomly occurred, while still accomplishing her necessary

work. Kourtney said that she believed she would get her work done more efficiently by just "going with the flow" of each day and not scheduling every minute. The counselor encouraged Kourtney to continue to experiment with the hourly planner to see if she could find a balance that worked for her academic and social life.

The next several meetings were dedicated to learning organizational strategies. Kourtney was more receptive to the organizational strategies, as this was an area which she believed could be improved with some small changes in her behaviors. The first strategy the counselor introduced was consistently writing down assignments in one place. Kourtney was given a paper, which had a section dedicated to each class and space under each section to write assignments for that week. The counselor and Kourtney reviewed how to effectively use this paper, including crossing off assignments and making sure that due dates were recorded with corresponding assignments. Kourtney explained that this was "easy enough" and paper-clipped the assignment sheet to the inside cover of the spiral notebook she uses. The counselor also discussed the idea of entering assignments in a note-pad app on her smart-phone, however Kourtney quickly dismissed this, acknowledging that if she took her phone out to review assignments, she would begin to text message, or access either Twitter or Facebook. With this insight the counselor and Kourtney decided that Kourtney would just use the paper version of the assignment sheet. Kourtney promised to discuss how the assignment sheet worked for her at the next meeting.

In a follow-up meeting, Kourtney was quite positive about the effects of using her assignment sheet, explaining that it made her more efficient in doing her work because she spent less time trying to remember what the assignment was. Kourtney also mentioned that using the sheet on a regular basis helped her to feel more in control of her academic life. Kourtney told the

counselor she believed she could sustain her use of this strategy because it was simple, yet she had experienced its effectiveness already.

The counselor also introduced Kourtney to the concept of outlining as a way to assist her in organizing her class and study notes. First they reviewed a general structure of an outline; a main point followed by details of that main point. Then the counselor asked Kourtney to rewrite her notes from one of her classes in an outline format. The exercise took around 35 minutes, yet by the end Kourtney had mastered how to translate random pieces of information into an organized content format. The counselor then explained to Kourtney that outlining in class was very similar to this exercise, just a bit faster paced as she would need to decide the main points and supporting points in a matter of seconds. The counselor suggested that Kourtney return to her room and watch a TEDtalk online and try to use outline format for note taking while the talk was going on.

At the follow up meeting Kourtney showed the counselor her notebook from one class. The notes were substantially more organized than they had been and it was obvious that she was trying to put the content into some type of outline. Kourtney reported to the counselor that she felt "really good" about her notes, and added that she was "proud of herself" for trying this technique. The counselor and Kourtney ended their meeting with a discussion of how she could continue to incorporate these strategies into her regular study routine. Kourtney ended the fall semester in which she completed academic counseling with a 2.485, the highest GPA she had achieved in three semesters. Kourtney's cumulative GPA had reached 2.788 by the end of that semester.

In Chapter Five, the findings and results summarized in this chapter are discussed as are the ways in which these findings corroborate other research on study and counseling strategies

used with college students on academic probation. Implications and ideas for future research are also discussed

CHAPTER FIVE

DISCUSSION, IMPLICATIONS AND FUTURE RESEARCH

In this chapter, the results of this study are discussed and implications are summarized, as are new directions for research. This study examined the impact of academic skill classes and individual counseling sessions on student academic performance. The study skills classes and counseling intervention modules developed were based on previous research as discussed in this dissertation as well as previous research on self-regulation (Ruban, 2000). Given a small but emerging body of research documenting the effectiveness of these kinds of interventions, it is important to know whether these opportunities have a positive impact on student achievement and as a way to support study skills and counseling intervention opportunities for all students. This information would be particularly relevant to those who come to the university without the prerequisite study and learning strategy skills that represent the full spectrum of abilities, backgrounds, and prior learning experiences that are represented in every university class.

Discussion

The results and findings of this study suggest that some students enter colleges and competitive universities unprepared for the rigors of post-secondary study. The qualitative findings of this dissertation strongly suggest that the students who participated in this study do not know how to study and are unprepared for basic tasks, such as attending class regularly, communicating with their professors at all, completing required reading, employing even minimal study, self-regulation, and time management skills.

The qualitative findings of this study highlight the negative impact of high school and family experiences that fail to prepare students to succeed independently in college. Kourtney's

parents, for example, controlled so much of her previous life before college that she had difficulties functioning and completing even mundane tasks without their help. Simple tasks like having her cell phone fixed or getting up to go to class had been so strictly controlled by her parents that she could not function independently in college. Getting up to arrive in time for class, studying a minimal number of hours each day or week became increasingly problematic. Kourtney, for example, reported that her parents had sat with her on a nightly basis to supervise her study routine in high school. Without that level of structure, she was failing in college. Other students such as Ray also illustrate the lack of preparation for independent college life. Ray could not manage his time at all, displaying a pattern of failing to attend class, missing meetings, forgetting to arrive on time for his academic counseling sessions, frequently missing or forgetting to go to class. Ray admitted believing that he had ADHD or ADD but he had never been motivated enough to seek help. Ray explained that as long as he lived with his mother, he did enough to succeed but that her control of his life was the reason for his success. He also had little competition for his time. For example, in his high school, he had limited choices as he was in one building, the bell told him when to change classes, and he had little freedom for time or choice of activities. When he arrived at college, he ignored his alarm, skipped classes, failed to monitor his schedule and failed to accept responsibilities for his failure to succeed in his classes.

What emerged from this study was the primary finding that some students who were successful in high school owe that success to their control of their lives by their parents, the rigid high school schedule, the monitoring of their study activities by their teachers, and even in some cases, to the lack of challenge of their high school curriculum. When the students in this study arrived at State University, most were unprepared for the rigors of college life as they had insufficient study skills that were required to do well in college. But that was only part of the

story, as many of them not only lacked the study skills, but also lacked the motivation or skill set to find help when they floundered academically.

For example, attempts to recruit a large enough sample for this study suggest one fundamental problem with this population--a lack of motivation to improve their academic standing. The academic services center that worked with the researcher on this study contacted the 116 students on academic probation several times by email and texts. The academic advisors who worked with these students used personal contact and sent both mass emails as well as individual emails to recruit students for this study. Phone calls were also made and despite these efforts, only 29, or 25 % of the students agreed to participate, even with an incentive of being able to remain in college if they attended academic advisement meetings and completed the requirements of the study. It became clear to the researcher during the first week of the intervention that most of the students were participating only because of the incentive. This may suggest a fundamental lack of motivation or organization in this group, but it became clear during the intervention that the students who did participate wanted to remain in college, but lacked motivation to do the required work. Only time will tell if the two interventions in which the 19 students participated have longer positive outcomes, but certainly, it is doubtful that without the monitoring provided in this study, they will be able to maintain the number of hours they are studying. In other words, their motivation appears to be linked to a more controlled environment, which closely mirrors their high school and home environment. Should students placed on academic probation in a large public university be required to attend study halls? If so, how long should these types of interventions last and what is the university's responsibility to make them continue this level of monitoring? What is less well-known is can self-regulation at

the university level be taught in a study skills class and whether the principles taught in such a class can be maintained by students who both lack the skills as well as the motivation.

How the Results of this Study Compare with Previous Research

The average student retention rates from 1983-2006 in public universities range from 66.4% to 70.0%, whereas private 4-year colleges college completion rates are usually between 70 to 75 % (The American College Testing Program, 2006). Vincent Tinto (1993), who has studied retention of college students for decades, found that many students enter higher education unprepared to meet the academic demands of college life. This dissertation upheld Tinto's primary assertion, as a major theme of this study related to participants who were simply unprepared for academic challenges and did not know how to access or use basic study strategies that are regularly employed by the more successful students. Tinto also found that if a student has positive experiences with faculty or adult advisors, they strengthen their commitment to attain certain goals, while negative experiences weaken the commitment.

Tinto's (1993) longitudinal model about attrition from institutions of higher education describes the complexities involved in students' decision to leave higher education. He further noted that individuals' experiences with various systems in universities either confirm or weaken their commitment to the institution. Tinto has found that if a student has positive university experiences, they strengthen his or her commitment (or the degree to which a student wants to attain certain goals), whereas negative experiences weaken the commitment.

The case studies in this dissertation as well as the researcher's interactions with the participants suggest that many had negative experiences related to failure and lack of academic engagement. Several failed to connect with members of the academic community and had few

opportunities to study with others or learn self-regulation strategies. For some participants, the academic counseling and learning skills course enabled a connection to be made with a counselor or with the instructor of the class.

Tinto (1993) also found academic struggles are directly linked to students leaving college, usually because academic difficulty leads to dismissal. The lack of academic engagement experienced by many of the participants in this study, coupled with their inability to study and use advanced learning strategies, also contributed to their poor academic performance.

Few of the participants in this study reported that they interacted with faculty on a regular basis. The participants receiving academic counseling subsequently reported that their regular interaction with their counselor helped them to be successful and motivated them to do their work as they did not want to disappoint their counselors. As reported in Chapter Two, Lillis (2012) examined the relationship between student-faculty interactions and student dropout rates and found a positive association between student-faculty interactions and students remaining in college. This study underscored the importance of this interaction and even though the academic counselors were not faculty, the frequent interactions that were part of the academic counseling intervention were still important. Palmer et al. (2012) examined the retention of minority students at a predominately white higher education institution and found four common themes that emerged as central to minority students remaining in-college, namely, faculty interaction, student involvement, peer support and self-accountability. Two of the findings of this study are in agreement with the Palmer et al. (2012) study. First, was the lack of faculty interaction, as mentioned earlier, and the second that emerged in this study was self-accountability in the form of discussions about self-regulation.

Most of the participants in this study lacked accountability for their own studying and academic progress. Several reported that without parental monitoring, they did not study enough or spend adequate time on their work for class or even do the minimal tasks they needed to accomplish to succeed in college. Many of the participants admitted that they did not read their emails regularly, did not go to class, were unfamiliar with their schedules, missed appointments, and failed to follow through on academic opportunities or obligations. The director the CLAS Academic Services shared her frustration about several of the students in the study who missed appointments and seemed to have little concern about doing so. One student, for example, had so little accountability or self-regulation that she admitted being addicted to Facebook and regularly asked her stepsister to change her password so that she was not able to log in during classes or her scheduled study times.

Russell (1992) found that academic success is often associated with students' study skills and their attitudes about academics. The relationship between study skills and the ability to process information is correlated with effectiveness in study skills (Gadzella, Ginther & Williamson, 1987). Similar findings emerged in this study as participants experiencing academic difficulty reported having little knowledge of study strategies or deep processing of information. Russell (1992) also identified the positive relationship between self-efficacy and academic success.

Self-efficacy theory (Bandura, 1977, 1982) attempts to explain a person's belief in his or her own ability to make changes or successfully perform a task. Lent et al. (1984) studied the relationship between self-efficacy beliefs and academic success in college students, finding that students with higher self-efficacy for academic requirements achieved higher grades (Lent et al., 1984). A similar finding emerged in this study with some of the participants. For example,

Jaime, a student in the learning skills class, was particularly interested and seemed to identify with the concept of self-efficacy. Jaime discussed that without knowing it, she had "internalized a defeatist attitude about academics" for most of her college experience and so she often entered new courses being convinced that there was little to no chance of her academic success in these classes. After discussing self-efficacy and self-regulation of affect, Jaime reported that she started "celebrating small successes" in academics. One small success was completing a very difficult homework assignment on time, as Jaime explained, "although this is a normal thing for a lot of students, I felt really good about this, and it made me think that if I can do one assignment then I can probably do more assignments this well."

A study by Multon and colleagues (1991) also supported the relationship between self-efficacy and both academic performance and persistence. Learning strategy courses such as the one offered in this study are one method that university personnel can employ to teach the strategies employed by successful students to students underperforming in academics.

The Effectiveness of College and University Learning Strategies Courses

Tuckman (2011) studied the outcome of the participation of freshmen enrolled in their first semester in college who participated in an online learning strategies course as compared to a control group of students who did not take the class. In this study, students enrolled in the Learning Skills Course reported an increase in the hours they studied before and after the intervention. Although the number of students in this dissertation research was not robust enough for an analysis of increases in GPA, these case studies suggest that some of the participants attained a higher GPA as well as more persistence in hours studied than had previously occurred.

Some participants in this study did not benefit from the learning skills class. Based on the surveys they completed, two or three students reported little change in their study habits. Dembo

(2004) investigated common reasons that college students fail to benefit from learning skills courses, including students' perceptions that they cannot make the necessary changes, or students who report that they do not want to change. In this study, some participants believed that they could not make the necessary changes because they were too difficult, the strategies took too much time, or they dismissed the strategies, in spite of the possibility that participation in a learning strategies course should show students new ways to study, which would hopefully replace or supplement the study strategies they were currently employing.

Traditional Study Skills Used by College Students

Another finding that emerged in this dissertation was that the most commonly used study method employed by the university students on academic probation that participated in this study was rereading content as has also been found in previous research (Karpicke et al., 2009; Callender & McDaniel, 2009; Stine-Morrow, Gagne, Morrow & DeWall, 2004; Carrier, 2003; Goetz & Palmer, 1991). Carrier (2003) found that 65% of upper level college students report the use of rereading of chapters as their most commonly used study strategy. All participants in this study reported the use of re-reading as one of the study methods they used most often to prepare for exams. In the learning skills course, for example, five out of the nine students reported that re-reading was the primary way they prepared for exams. Of these five students, two reported that re-reading was a successful form of studying for them. The findings from the study support previously published research in this area (Karpicke et al., 2009; Callender & McDaniel, 2009; Stine-Morrow, Gagne, Morrow & DeWall, 2004; Carrier, 2003; Goetz & Palmer, 1991).

A number of researchers suggest that students benefit more from studying when they actively process the content they are trying to remember (Carrier, 2003; Callender & McDaniel,

2009). Research conducted by Callender and McDaniel (2009) on undergraduate students attending Washington University in St. Louis found that "rereading a text generally did not significantly improve performance on educationally relevant summative assessments" (p.35). In this study, the participants reported that rereading was not the best preparation method for their tests.

Other Learning Strategies Used by College Students

Self-testing, or the act of repeatedly recalling information, has been investigated in numerous studies over the last several decades, and most have concluded that this is an effective way to study and recall information for assessments (Gates, 1917; Jones, 1923-1924; Spitzer, 1939; & Tulving, 1967). The use of self-testing and setting an information retrieval schedule was emphasized in the interventions given to both treatment groups. Participants were receptive to the use of this strategy, and in general, acknowledged that the strategy was effective when used correctly, yet many of them did not want to commit to using self-testing after the intervention was completed. Four students in the learning skills class reported using self-testing, and indicated they would continue to use this strategy in the future, while only one student from the academic counseling reported that this strategy would be used in the future.

In one important study conducted by Carrier and Prashler (1992), a series of carefully conducted experiments found that retrieval results in better retention of information. In another study, Hartwig and Dunlosky (2012) surveyed 324 undergraduate students, demonstrating that the use of self-testing was positively associated with GPA. Despite the proven effectiveness of self-testing and retrieval strategies, Karpicke et al. (2009) found that the majority of college students do not use this method, preferring to simply reread their notes. The results from the dissertation confirm the findings of Karpicke et al. (2009). While participants in Treatment

Groups one and two were exposed to self-testing, the majority did not report using self-testing in the post intervention surveys.

Many college students are able to exert control over their own time management and schoolwork schedules as well as over how they study and learn (Pintrich, 1990). Students who manage their time and learning have been found to possess an advantage in higher education when compared with other students who have not developed these self-regulated learning strategies. Zimmerman (1989) stated that self-regulated learning involves the regulation of three general aspects of academic learning. The first aspect is self-regulation of behavior, which involves the control of the various resources students have available to them. These resources include their unscheduled time, study environments, and their use of academic supports available to them, such as tutors, faculty, or other peers (Garcia & Pintrich, 1994; Pintrich, Smith, Garcia, & McKeachie, 1991). The second aspect, self-regulation of motivation and affect, involves controlling motivational beliefs and attitudes such as self-efficacy and goal setting, so that students can adapt to the academic demands and expectations (Garcia & Pintrich, 1994; Pintrich, et al., 1993). The third aspect, self-regulation of cognition, involves students' control of various strategies for learning, such as the use of processing strategies that result in better learning and performance in academics (Garcia & Pintrich, 1994; Pintrich, et al., 1993).

Time management was one of the most successful strategies introduced to both treatment groups in this study. Participants reported that they liked the structure and limits that these strategies imposed upon them. Many of them reported that they were comfortable using this strategy because it was similar to how they had been scheduled to do their work in primary and secondary school. This point raises several questions from this finding. How many secondary schools have programs or study skill classes designed to teach students how to develop proficient

time management skills? Are some parents over-managing their children's time so that when they arrive at college, some students are unable to successfully manage their own time and study schedule. Another question that should be raised involves how colleges and universities can better help students to become more efficient in developing time management skills before they are in academic jeopardy.

Academic Counseling Strategies to Improve Academic Performance

A meta-analysis conducted by Sharkin (2004) of 109 studies found that counseling used with college students demonstrates that these strategies can have a positive impact on retention. It would be interesting to continue to monitor the progress of the students in this study to better understand if this counseling intervention program had a positive impact on students' ability to persist at their university. Bland et al. (1987) found that college freshman in academic trouble who had at least one diagnostic and prescriptive interview with an academic support counselor were more likely to remain in good academic standing the semester following treatment than students in the control group and it would also be interesting to understand if these participants also had the same outcomes. Participants in Treatment Group two who received individual academic counseling reported that having individual contact on a regular basis was motivating to them and reported that they felt they would be letting their counselor down if they did not complete their work and try the strategies that were discussed in their counseling sessions.

Implications from this Research

Several implications emerged from this dissertation. As the sample size was not large enough for the statistical analyses used, care must be taken not to overstate the importance of offering either study skills classes or academic counseling opportunities to all students on academic probation and at-risk for dropping out or being dismissed from school. However, the

qualitative analysis as well as the data from the questionnaires shows that for some students, these strategies helped. For example, eight of the nine participating students agreed they practiced using study methods most of the time after taking the class and some students in the study skills class began using more active engagement strategies, such as retyping their notes and creating note cards. This suggests that the study skills class did help some students. All students who participated in the learning skills class reported on the post survey that they wanted to use learning strategies to learn more efficiently so perhaps optional classes on specific classes that are offered both in person and on-line might be beneficial.

Perhaps the most important finding in this study was the reported hours of weekly studying that occurred before and after the intervention. The mean study hours weekly were summarized using a procedure for calculating the mean of interval data. Before the intervention, students reported studying for eight hours per week and after the intervention, their self-report more than doubled, to 19.4 hours per week. An implication that emerged from this finding is that a study skills class could potentially be offered to any student who appears to encounter academic difficulty as early as the end of the first semester of college to encourage students to pursue additional hours of study each week.

Another implication of this study is the need for students to better understand how to schedule their personal and work time and how to develop overall stronger self-regulation skills. On-line modules in both of these areas as well as live classes, particularly for students who do poorly in their first semester at this university should be considered. Another implication of this research study is the need for students to develop stronger relationships with faculty or staff members. Students in both the learning skills course and those receiving individual academic counseling reported feeling obligated to complete the work discussed in class or in their

counseling intervention because they knew there was another meeting or class where they would be accountable for their work completion. The regularity and frequency of the meetings or classes kept the students accountable and forced them to plan out their time in a more constructive way. Academic and faculty advisors should take this into consideration when working with students who are struggling academically; having a meeting schedule will add an extra layer of accountability to the student.

Future Research

Suggestions for promising future research efforts pertain to study skills instruction and counseling interventions in general, and to the specific findings from this study. For one thing, it is anticipated that the counseling intervention and the study skills class in which these students participated may have had a positive influence on them. As such, an interesting possible future study would be to follow their academic paths to investigate whether they decide to leave or remain in college. For as Tinto's (1993) findings suggest, academic struggles are often linked to students leaving college, usually because academic difficulty leads to dismissal.

Tinto (1993) found that students are leaving secondary education under prepared for the rigors of college academics, specifically in the basic skill areas of reading and math. This dissertation study further validated Tinto's earlier findings. Many students in Treatment Group one and two reported that they were not prepared for the academic challenges they encountered as they did not really have to study before college, and did not know how to study once they were enrolled in college. Another possible future study would be to survey college freshman who were placed on academic probation, and conduct follow up interviews to discuss why they believe they are not succeeding academically. This line of research could provide some insight into the skill gap between high school and college.

Individual contact on a regular basis with a counselor was reported to be one of the most useful strategies for Treatment Group two. Other empirical research has noted that students forming relationships with faculty or staff increased their productivity (Lillis, 2012). Another possible study would be to conduct a qualitative study that examined why some students reach out to faculty and staff while others do not. This type of research would also contribute to the research literature because of the importance placed on individual contact with another person on a regular basis and the likelihood that this contact might positively affects the students' future academic success.

References

American College Testing Program (ACT). (2006). *Reading between the lines: what the ACT reading test reveals about college readiness.* Iowa City, IA: Author.

Amlund, J. T., Kardash, C. A. M., & Kulhavy, R. W. (1986). Repetitive reading and recall of expository text. *Reading Research Quarterly,* 21, 49-58.

Anderson, T. H. (1980). *Study strategies and adjunct aids.* Hillsdale, NJ: Lawrence Erlbaum.

Babbie, E. (1990). *Survey research methods* (2nd ed.). Belmont, CA: Wadsworth

Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist, 37,* 122-147.

Bandura, A., & Adams, N. E. (1977). Analysis of self-efficacy theory of behavioral change. *Cognitive Therapy and Research, 1,* 287-308.

Barnett, J. E., & Seefeldt, R. W. (1989). Read something once, why read it again? Repetitive reading and recall. *Journal of Reading Behavior,* 2, 351-360.

Bishop, J. B., & Brenneman, K. A. (1986). An initial assessment of a counseling center's role in retention. *Journal of College Student Personnel,* 27, 461-462.

Bishop, J. B., & Walker, S. K. (1990). What role does counseling play in decisions relating to retention? *Journal of College Student Development*, 31, 88-89.

Bland, V., Carstens, S., Hunt, P., Hunt, S., Leonard, M., Magoon, T., & McDevitt, J. (1987). *Diagnostic and prescriptive interviews with undecided freshman in academic jeopardy.* College Park, MD: University of Marlyland. (ERIC Document Reproduction Service No. ED 290 973)

Boyd, V., Friesen, F., Hunt, P., Hunt, S., Magoon, T., & Van Brunt, J. (1996). *A summer retention program for students who were academically dismissed and applied for reinstatement* (Research Report No. 13-96). College Park, MD: University of Maryland Counseling Center. (ERIC Document Reproduction Service No. ED405529)

Bromage, B. K., & Mayer, R. E. (1986). Quantitative and qualitative effects of repetition on learning from technical text. *Journal of Educational Psychology,* 78(4), 271-278.

Callender, A. A., & McDaniel, M. A. (2009). The limited benefits of rereading educational texts. *Contemporary Educational Psychology,* 34, 30-41.

Carrier, L. M. (2003). College students' choices of study strategies. *Perceptual and Motor Skills,* 34, 30-41.

Carrier, M., & Pashler, H. (1992). The influence of retrieval on retention. *Mem. Cogn.,* 20, 633-642.

Cohen. J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.

Dembo, M. H., & Seli, H. (2004). Students' Resistance to Change in Learning Strategies Courses. *Journal Of Developmental Education*, 27(3), 2-4.

Dunlosky, J., & Rawosn, K. A. (2005). Why does rereading improve metacomprehension accuracy? Evaluating the levels-of-disruption hypothesis for the rereading effect. *Discourse Processes,* 40, 37-55.

Durgonoglu, A. Y., Mir, M., & Arino-Marti, S. (1993). Effects of repeated reading on bilingual and monolingual memory of text. *Contemporary Educational Psychology,* 18, 294-317.

Dyer, J. W., Riley, J., & Yekovich, F. R. (1979) An analysis of three study skills: Notetaking, summarizing and rereading. *Journal of Educational Research*, 73, 3-7.

Edwards, J. E., & Waters, L. K. (1981). Moderating effect of achievement motivation and locus of control on the relationship between academic ability and academic performance. *Educational and Psychological Measurement,* 41, 585-587.

Faul, F. Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G*Power 3 [computer software]. Available from http://www.psycho.uni-duesseldorf.de/aap/projects/gpower/.

Forster, B., Swallow, C., Fodor, J. H., & Foulser, J. E. (1999). Effects of a college study skills course on at-risk first-year students. *NASPA Journal,* 36, 120-132.

Gadzella, B. M., Ginther, D. W., & Williamson, J. D. (1987). Study skills, learning processes and academic achievement. *Psychological Reports,* 61, 167-172.

Garner, R. R. (1990). When children and adults do not use learning strategies: Toward a theory of settings. Review Of Educational Research, 60(4), 517.

Garcia, T., & Pintrich, P. R. (1994). *Regulating motivation and cognition in the classroom: The role of self-schemas and self-regulatory strategies*. In D. H. Schunk, B. J. Zimmerman (Eds.) , *Self-regulation of learning and performance: Issues and educational applications* (pp. 127-153). Hillsdale, NJ England: Lawrence Erlbaum Associates, Inc.

Gates, A. I. (1917). Recitation as a factor in memorizing. *Arch. Psychol.* 6, 1-104.

Greene, J. C., Caracelli, V. J., & Graham, W. F. (1989). Toward a conceptual framework for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis, 11*(3), 255-274.

Goetz, E. T., & Palmer, D. J. (1991). The role of students' perceptions of study strategy and personal attributes in strategy use. *Reading Psychology,* 12, 199-217.

Haenggi, D., & Perfetti, C. A. (1992). Individual differences in reprocessing of text. *Journal of Educational Psychology*, 84, 182-192.

Hartwig, M., & Dunlosky, J. (2012). Study strategies of college students: Are self testing and scheduling related to achievement?. *Psychonomic Bulletin & Review*, 19(1), 126-134. doi:10.3758/s13423-011-0181-y

Harvard University. (2011). *Pathways to Prosperity*. Cambridge, MA: Harvard Graduate School of Education.

Hattie, J., & And, O. (1996). Effects of Learning Skills Interventions on Student Learning: A Meta-Analysis. *Review Of Educational Research*, 66(2), 99-136.

Hollenbeck, J. R., Williams, C. R., & Klein, H. J. (1989). An empirical examination of the antecedents of commitment to difficult goals. *Journal of Applied Psychology,*74, 18-73.

Howe, M. J. A., & Singer, L. (1975). Presentation variables and students' activities in meaningful learning. *British Journal of Educational Psychology,* 45, 52-61.

Isaac, S., & Michael, W. B. (1997). *Handbook in research and evaluation: A collection of principles, methods, and strategies useful in the planning, design, and evaluation of studies in education and the behavioral sciences*(6th ed.). San Diego: EdITS.

Isakson, R. L., & Call, J. M. (1991). The Freshman Student and Academic Success: A Counseling Center's Approach.

Jones, H. E. (1923-1924). The effects of examination on the performance of learning. *Arch. Psychol.* 10, 1-70.

Karpicke, J. D., Butler, A. C., & Roediger III, H. L. (2009). Metacognitive strategies in student learning: Do students practice retrieval when they study on their own?. *Memory*, 17(4), 471-479. doi:10.1080/09658210802647009

Krug, D., Davis, T. B., & Glover, J. A. (1990). Massed versus distributed repeated reading: A case of forgetting helping recall? *Journal of Educational Psychology,* 82, 366-371.

Landauer, T. K., & Bjork, R. A. (1978). Optimum rehearsal patterns and name learning. In *Practical Aspects of Memory (*Gruenberg, M. M. et al. eds), pp. 625-632, Academic Press.

Lent, R. W., Brown, S. D,. & Larkin, K. C. (1984). Relation of self-efficacy expectations to academic achievement and persistence. *Journal of Counseling Psychology*, 31, 356-362.

Lillis, M. P. (2012). Faculty Emotional Intelligence and Student-Faculty Interactions: Implications for Student Retention. *Journal Of College Student Retention: Research, Theory & Practice,* 13(2), 155-178.

Lin, Y. G., & McKeachie, W. J. (1970). Aptitude, anxiety, study habits, and academic achievement. *Journal of Counseling Psychology,* 17, 306-309.

Malloch, D. C., & Michael, W. B. (1981). Predicting student grade point average at community college: SAT, ACT scores, and measures of motivation. *Educational and Psychological Measurement,* 41, 1127-1135.

Mathiasen, R. E. (1984). Predicting college academic achievement: A research review. *College Student Journal,* 18, 380-386.

Mayer, R. E. (1983). Can you repeat that? Qualitative effects of repetition and advance organizers on learning from science prose. *Journal of Educational Psychology,* 75, 715-726.

McClelland, D. C. (1979). *Increasing achievement motivation.* Boston, MA: McBer and Company.

McCombs, B. L. (1984). Processes and skills underlying continuing intrinsic motivation to learn: Toward a definition of motivational skills training interventions. *Educational Psychologist,* 19, 199-218.

Miles, Matthew., & Huberman, Michael. (1994). *Qualitative Data Analysis.* California: Sage Publications.

Millis, K. K., & King, A. (2001). Rereading strategically: The influences of comprehension ability and a prior reading on the memory for expository text. *Reading Psychology*, 22, 41-65.

Multon, K. D., Brown, S. D., & Lent, R. W. (1991). Relation of self-efficacy beliefs to academic outcomes: A meta-analytic investigation. *Journal of Counseling Psychology.* 38, 30-39.

Palmer, R. T., Maramba, D. C., & Holmes, S. L. (2012). A Contemporary Examination of Factors Promoting the Academic Success of Minority Students at a Predominantly White University. *Journal Of College Student Retention: Research, Theory & Practice,* 13(3), 329-349.

Pintrich, P. R., & Garcia, T. (1993). Individual differences in students' motivation and self-regulated learning. *German Journal Of Educational Psychology,* 7(2-3), 99-107.

Pintrich,P ., & de Groot,E . (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology*, 82, 33-40.

Pintrich, P. R., Smith, D. A., Garcia, T., & McKeachie, W. J. (1991). *A manual for the use of the Motivated Strategies for Learning Questionnaire (MSLQ)* (Rep. No. 91-B 004). Ann Arbor, MI: University of Michigan.

Ramirez, M. O., & Owen, S. V. (1991, April). *Scale revision of the Study Skills Self-Efficacy instrument.* Paper presented at the annual meeting of the New England Research Association, Portsmouth, New Hampshire.

Rawson, K. A., & Kintsch, W. (2005). Rereading effects depend on time of test. *Journal of Educational Psychology*, 97, 70-80.

Ruban, L. (1999). Patterns of self-regulated learning and academic achievement among university students with and without learning disabilities (Doctoral Dissertation, University of Connecticut).

Ruban, L., & Reis, S. M. (2006). Patterns of self-regulatory strategy use among low-achieving and high-achieving university students. *Roeper Review, 28*, 148-156.

Roediger, H. L., & Butler, A. C. (2011). The critical role of retrieval practice in long-term retention. *Trends In Cognitive Sciences,* 15(1), 20-27. doi:10.1016/j.tics.2010.09.003

Roediger, H.L., III and Karpicke, J.D. (2006) The power of testing memory: basic research and implications for educational practice. *Persp. Psychol. Sci*. 1, 181–210

Russell, R. K., & Petrie, T. A. (1992). Academic adjustment of college students: Assessment and counseling. In S. D. Brown, R. Lent (Eds.), *Handbook of counseling psychology* (2nd ed.) (pp. 485-511). Oxford England: John Wiley & Sons.

Sharkin, B. S. (2004). College counseling and student retention: Research findings and implications for counseling centers. *Journal Of College Counseling*, 7(2), 99.

Spitzer, H. F. (1939). Studies in retention. *J. Educ. Psychol,* 30, 641-656.

Stine-Morrow, E. L., Gagne, D. D., Morrow, D. G., & DeWall, B. (2004). Age differences in rereading. *Memory & Cognition*, 32(5), 696-710.

Tabberer, R. (1984). Introducing study skills at 16-19. *Educational Research,* 26, 1-6.

Tinto, V. (1993). Leaving college: Rethinking the causes and cures of student attrition. Chicago: The University of Chicago Press.

Tuckman, B. W., & Kennedy, G. J. (2011). Teaching learning strategies to increase success of first-term college students. *Journal Of Experimental Education,* 79(4), 478-504. doi:10.1080/00220973.2010.512318

Tulving, E. (1967). The effects of presentation and recall of material in free-recall learning. *J. Verb. Learn. Verb. Behav.* 6, 175-184.

Weinstein, Y., McDermott, K. B., & Roediger, H. (2010). A comparison of study strategies for passages: Rereading, answering questions, and generating questions. *Journal Of Experimental Psychology: Applied, 16(3)*, 308-316. doi:10.1037/a0020992

Weissmann, Jordan. (2012, March, 29). Why do so many Americans drop out of college. *The Atlantic.* Retrieved from http://www.theatlantic.com/business/archive/2012/03/why-do-so-many-americans-drop-out-of-college/255226/

Weitzman, R. A. (1982). The prediction of college achievement by the SAT and the high school record. *Journal of Educational Measurement,* 19, 179-191.

Wilmer, E. (2009). The influence of learning communities on the interaction levels of developmental English students. *Inquiry*, 14(1), 55-67.

Wlazelek, B. G., & Coulter, L. P. (1999). The role of counseling services for students in academic jeopardy: A preliminary study. *Journal Of College Counseling*, 2(1), 33-41.

Yin, Robert. (2009). *Case Study Research: Design and Methods.* Washington, DC: Sage Publications.

Zimmerman, B. J. (1989). A Social Cognitive View of Self-Regulated Academic Learning. *Journal Of Educational Psychology*, 81(3), 329-39.

Zimmerman, B. J., & Martinez-Pons, M. (1988). Construct Validation of a Strategy Model of Student Self-Regulated Learning. *Journal Of Educational Psychology,* 80(3), 284-90.

Appendix A
Acquisition and Use of Study Skills and Learning Strategies (AUSSLS)

1. Have you developed any special way of studying in your current academic work (such as figuring out how to study difficult material more efficiently, finding a good way to memorize important information, etc.)?

❑ I do it rarely ❑ I do it sometimes ❑ I do it most of the time ❑ Can't think of any

Please list or describe the ways you study most often:

_____

2. Why do you choose <u>to use study strategies to your academic work?</u>

(You can check more than one):

❑ To learn for meaning, not just to pass exams help me better
❑ To learn material more efficiently
❑ To compensate for my learning difficulties in some courses
❑ To get better grades
❑ To organize material to prepare for tests
❑ To learn difficult content
❑ Other (Please specify)

_____

3. If you do *not* use study skills and learning strategies in your academic work, why do you choose <u>not to use</u> them? (You can check more than one):

❑ I can succeed academically without them
❑ It takes too much work to learn them
❑ I never learned them
❑ I don't have time to use them
❑ Using them will not make a difference
❑ Other (Please specify)

_____

4. Will you continue to use the strategies you learned in the study strategies course as part of your routine? If yes, describe why and if no, describe why not.

_____

_____

_____

_____

5. How many <u>hours per week</u>, on average, did you spend on your academic assignments (e.g., homework, projects, etc.) BEFORE attending your counseling sessions?

1-4

5-9

10-15

16-19

20-24

25-29

30 or more

6. How many <u>hours per week</u>, on average, did you spend on your academic assignments (e.g., homework, projects, etc.) AFTER attending your counseling sessions?

1-4

5-9

10-15

16-19

20-24

25-29

30 or more

7. From your point of view, do you consider the use of study skills in your current academic work to be:

❑ Not beneficial ❑ Very beneficial

❑ Somewhat beneficial ❑ I am not sure

❑ Beneficial ❑ Other (Specify)

_____

8. In your opinion, what study strategies have been the most useful to you during the study skills course you completed this semester?

_____

_____

_____

_____

9. Please describe how the use of study skills helps you to succeed in your academic work:

_____

_____

_____

_____

10. Describe the most useful study strategies you use to prepare for a challenging test.

_____
_____

_____
_____

****

THANK YOU FOR YOUR HELP!!!

Appendix B

Academic Counseling Strategies (ACS)

1. Which academic counseling strategies were most useful in helping you to improve your academic performance?

_____
_____
_____
_____
_____

2. Why do you choose <u>to use study strategies to your academic work?</u>
(You can check more than one):

To learn for meaning, not just to pass exams

To organize material to help me better prepare for tests

To learn material more efficiently

To learn difficult content in some courses

To compensate for my learning difficulties

Other (Please specify)
_____
_____
_____
_____

To get better grades

3. If you do *not* use study skills and learning strategies in your academic work, why do you choose <u>not to use</u> them? (You can check more than one):

I can succeed academically without them

I don't have time to use them

It takes too much work to learn them

Using them will not make a difference

I never learned them

Other (Please specify)
_____
_____
_____
_____

4. Was the process of working with an academic counselor useful to you?

Yes No

4a. Please explain why it was useful or not:

_____
_____
_____
_____
_____

5. Did the individual academic counseling you received motivate you to try a strategy that was discussed in your session?

Yes No

5a. If yes, which strategy did you try?

_____
_____
_____
_____
_____

6. Do you believe that the individualized counseling you received helped you to develop new strategies for studying?

_____
_____
_____
_____
_____

7. Will you continue to use the strategies you learned in the counseling as part of your academic routine? If yes, describe why and if no, describe why not.

_____
_____
_____
_____
_____

8. How many hours per week, on average, did you spend on your academic assignments (e.g., homework, projects, etc.) BEFORE attending your counseling sessions?

1-4

5-9

10-15

16-19

20-24

25-29

30 or more

9. How many hours per week, on average, did you spend on your academic assignments (e.g., homework, projects, etc.) AFTER attending your counseling sessions?

1-4

5-9

10-15

16-19

20-24

25-29

30 or more

10. From your point of view, do you consider the use of counseling strategies in your current academic work to be:

Not beneficial

Somewhat beneficial

Beneficial

Very beneficial

I am not sure

Other (Please specify)
_____
_____

11. Describe the most useful counseling and study strategies that best help you to prepare for a challenging test.

_____
_____
_____
_____
_____

THANK YOU FOR YOUR HELP!!!

Appendix C

Calculation of Mean Interval Data					
Range	Midpoint	Pre-study		Post-study	
		Frequency	Midpoint * Frequency	Frequency	Midpoint * Frequency
1 to 4	2.5	4	10	0	0
5 to 9	7	1	7	1	7
10 to 15	12.5	3	37.5	2	25
16 to 19	17.5	1	17.5	1	17.5
20 to 24	22	0	0	2	44
25 to 29	27	0	0	3	81
	Σ	9	72	9	174.5
		$\bar{x}_{interval}$=	8	$\bar{x}_{interval}$=	19.39

Appendix D

Recruitment Email

Dear Student,

You are receiving this email because you were subject to dismissal from the University at the end of the Spring 2012 semester. A graduate student in Educational Psychology, Sara Renzulli, is looking for participants for a research study. The study is comparing the effectiveness of academic counseling with an academic learning skills course. If you take part in the study, you will be asked to attend either two hours of individual academic counseling a week, or two hours of a learning skills course per week for three weeks.

If you are randomly selected to participate in this study, and you attend and actively participate in every session or class, even if your fall semester or cumulative GPA does not improve sufficiently to put you in good academic standing, you will be retained for the Spring 2013 semester.

If you would like to participate in this study, and meet the eligibility criteria, you will be offered an incentive of being retained for the Spring 2013 semester, regardless of your fall semester or cumulative GPA. If you are interested in participating, please attend the information session on this study, which will be on October 29th at 7:30 pm in Classroom Building 110 conference room on the ground floor. If you have additional questions please contact the student investigator for the research study Sara Renzulli at sara.renzulli@uconn.edu.

Regards,

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This research study has been approved by the UConn IRB, Protocol #H12-253